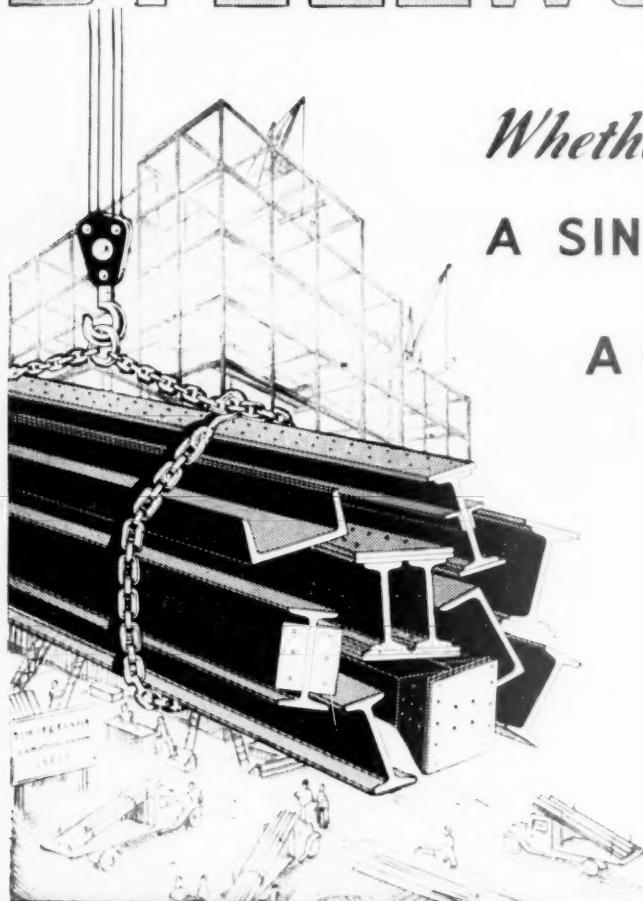


# THE ARCHITECT & BUILDING NEWS

## IN THIS ISSUE

- FLATS AT GRAHAM ROAD, HACKNEY
- OLYMPIC STADIUM, HELSINKI
- EXPRESSION IN MODERN ARCHITECTURE

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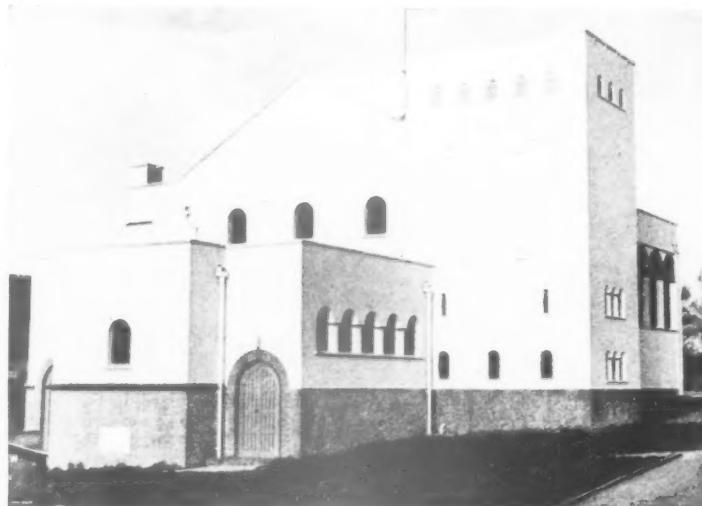
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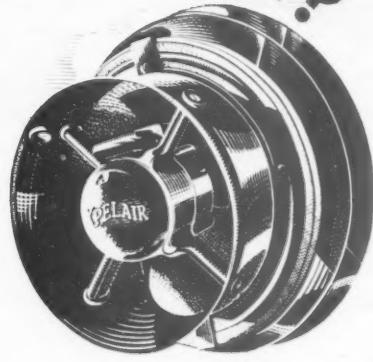
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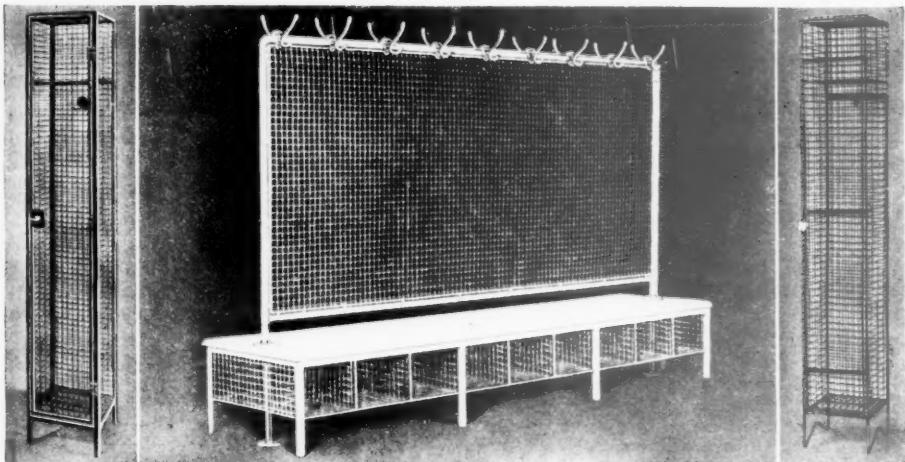
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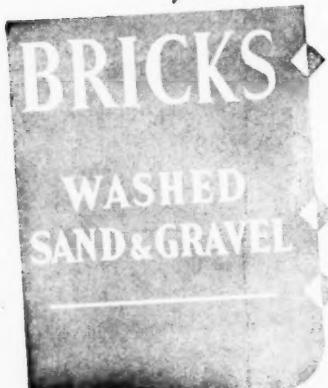
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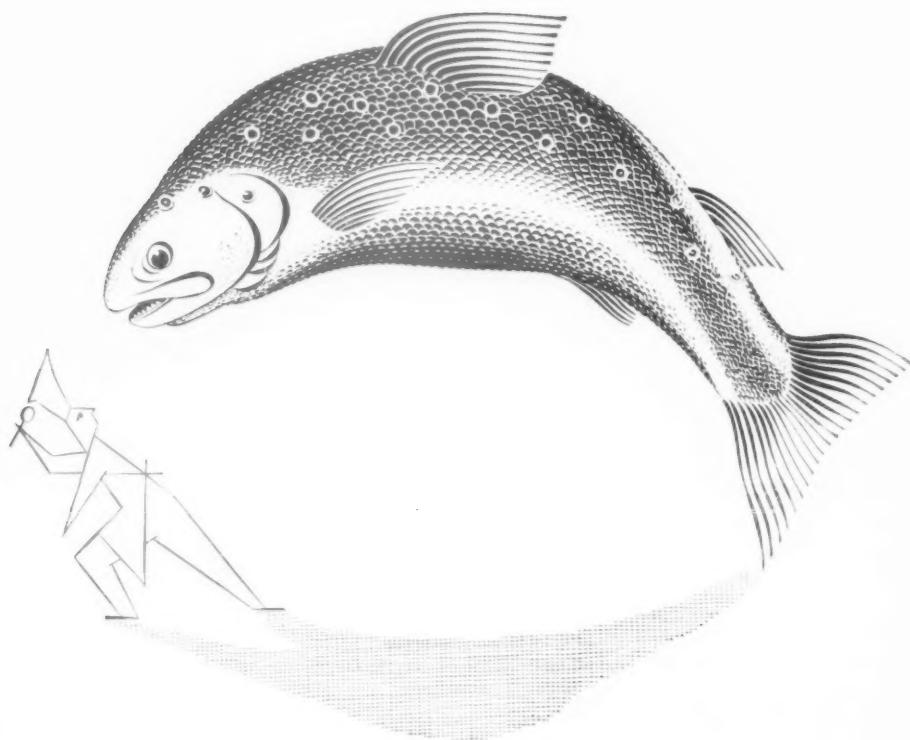
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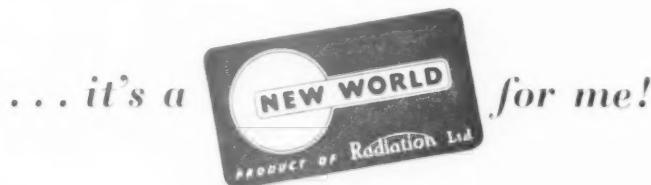
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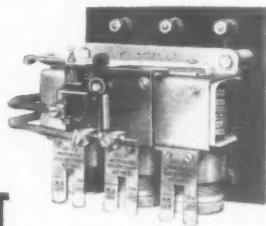
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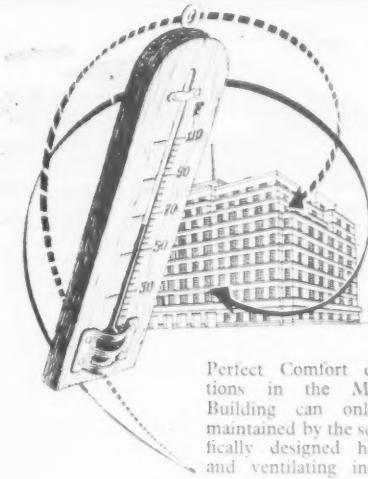
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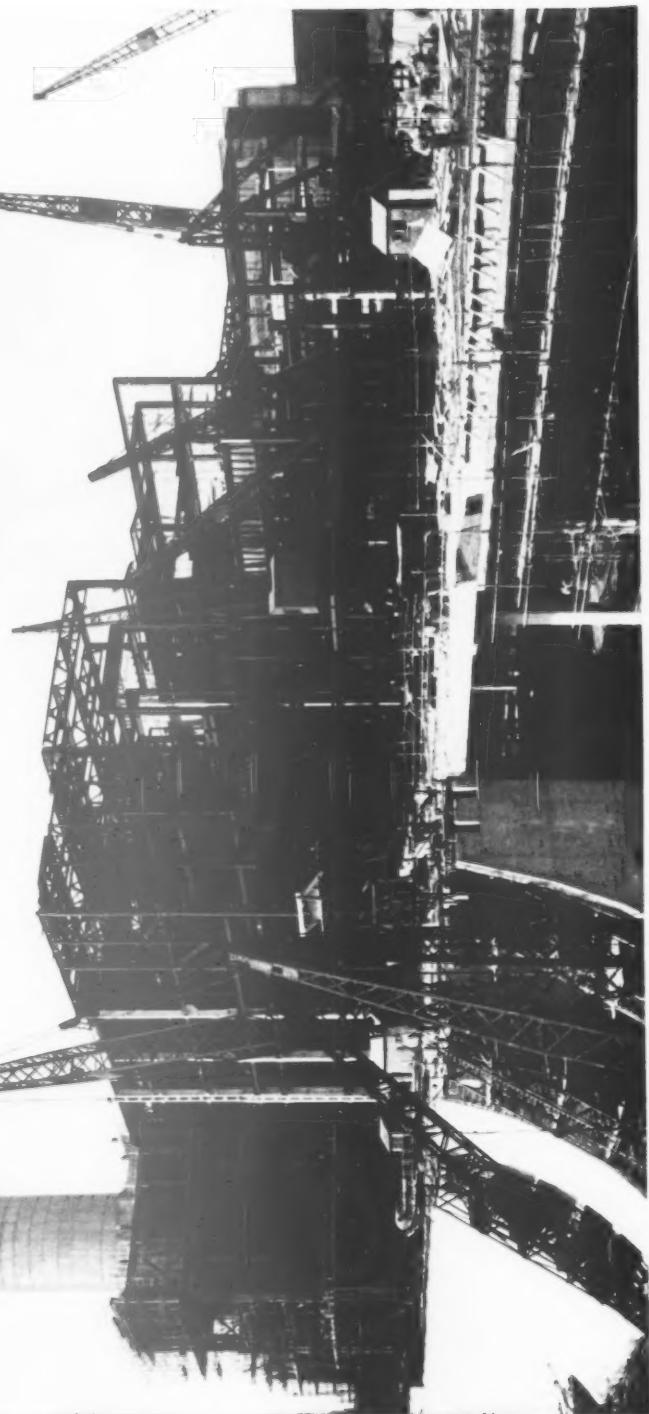
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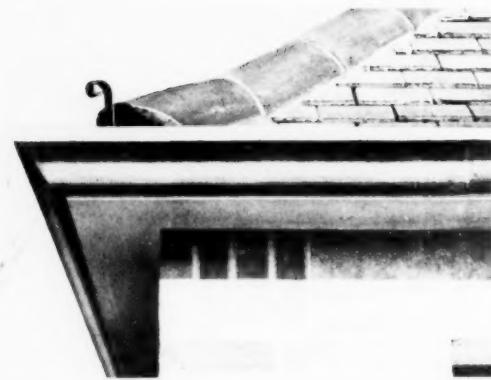


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## FREED ENTERPRISE

**I**N place of a leader, space has been given this week to excerpts from the speeches of the Ministers of Works and of Housing and Local Government. In effect they reverse the policy of the Labour Government and revert to letting private enterprise make the best job it can in difficult circumstances, while the Government reserves the power to see that work of high national importance is started and completed.

Mr. Macmillan would like to see attracted back small builders who have left the industry. In the scramble for materials it is just such firms whose houses might be left half-up, whereas the labour and materials would be more valuable keeping in repair such houses as will decay without them.

Since only completed buildings are economic there must be some sort of planning to see that building materials producers get the coal they require to step up output to meet the rush for supplies that the new policy makes inevitable. In place of centralized planning machinery, it is proposed to set up local Housing Production Boards, but these will be in competition with each other in their demands, and their powers to see that buildings started also get finished will be limited unless there is co-ordination in a wide field.

**MR. ECCLES** Speaking to the London Master Builders' Association said:—

Our policy for the Building Industry will be based on three principles: *First*, to maintain the manpower in the industry and to employ it to the full.

*Second*, to stimulate a supply of materials and to secure a continuity of building work so that the Industry has a really good chance to increase the rate of output. In creating the conditions for expansion we shall use the minimum of control and regulation.

*Third*, while pushing on with the works required for the Defence programme, to step up the housing programme. How fast we can go in that direction will depend on the

extent that manufacturers of materials and building contractors seize the new opportunities and succeed in expanding their output.

I have been told that the present labour force in the Building Industry of about one million men is too large for the available materials. It is said that if we had less men we should get more output. I do not believe that, but even if it were true there is a much better way to improve productivity than to reduce manpower in the industry. The problem has to be attacked from the other end, that is by increasing the supply of materials.

This is the Government's policy. Much too much time is wasted in speculating about a possible slump in building. It simply does not make sense when the country wants such vast numbers of schools, hospitals, houses, factories, and so on, which to-day we have to prevent from being started. It is much more helpful to concentrate, not on the size of unfilled orders which are really without limit, but on the physical difficulties of doing each year more than a small amount of what we are determined to do as soon as we can. Our problem is how to save scarce materials and how many contracts to place against the existing capacity and productivity of the Industry. How are we to get the materials and arrange the continuity of work so that the Industry can keep on doing the most of which it is capable?

I am not responsible for the supply of steel but I do have the duty of speaking for the requirements of the Building Industry. We really have to learn to build with less steel. Later in the year building may get something out of the Prime Minister's million tons from U.S.A., but there are other strong claimants, and it will be a long time before we can afford to forget that every ton of steel saved will add to Britain's earnings in overseas trade.

When an allocation system of steel starts there is always something of a panic, but usually it turns out to be less grim than it looked at first; and there is one way in which the Government is going to ease this shortage, and that is by securing a better supply of reinforcing rods and of wire for pre-stressed concrete. The Minister of Supply has these important matters in hand.

Then *bricks*: the Brick Industry is discussing its difficulties with me this afternoon. I cannot help thinking that as the demand for bricks increases, as it will when builders have a bit more freedom and incentive to get on with housing, then with that encouragement from your side and with some help from the Ministry of Works we shall find that the Brick Industry will give us the output we want.

*Cement*: that Industry was scheduled for nationalization but by doing a very fine job for its customers it put the nationalizers to flight.



Mr. David Eccles, Minister of Works, with Mr. Dudley Cox, retiring President of the L.M.B.A.

Production of cement has been rising and I am very hopeful that this vigorous example of private enterprise will continue to meet the expanding needs of the home market. But we still import cement and it is the duty of all who use cement to economize in order that these imports may be cut down.

**Plasterboard:** arrangements have been made to get rid of the statutory price control which imposed dual prices. Output was held down by shortage of paper liner. Here Lord Swinton, who has taken over the duties of the Minister of Materials, has been most helpful and I am looking for a sufficient increase in production of plasterboard to get rid of long-period delivery dates.

**Timber:** for certain reasons I'd rather not say any more about timber to-day but the outlook is quite good.

**Cast-iron Goods and Pipes:** these are a headache. Mr. Sandy's, the Minister of Supply, the Minister of Housing and I are on the job, and while I cannot promise that all the difficulties can be quickly overcome, we shall advance in the right direction.

My object is to create the conditions in which the Building Materials Industry can produce more as the volume of your work calls for more. It is difficult to say in this matter which is here the cart and which the horse—whether the better flow of work will produce the materials or the better flow of materials will encourage a greater volume of work. Our sensible policy is to tackle the problem from both ends.

Let me turn, therefore, to the method by which contracts are fed into the Industry.

We cannot sweep away altogether the starting-date procedure because the Government must have the power to see that work of high national importance is started and completed. Some strategic planning must remain. Our problem is how to combine that clear line of policy, for which your Chairman asked, with handing back to the industry an important part in deciding when, where and how much new building can be started.

I shall be consulting the Industry on ways and means to operate this flexible policy. I want to bring the Industry right into the picture, and that should help the manufacturers of materials and the builders to make full use of this change of policy and to expand output in the knowledge that continuity of new work will be more easily obtainable under this system than under the old rigid-money ceilings, which stopped work for no better reason than that the quotas had already been used up.

The Building Industry brings to the battle of Britain's recovery a force that is only equalled by coal, transport and agriculture. In many ways we have the best chance to expand. If we can do this by a better relationship between the Government and the Industry, by better management, better earnings and better work, we shall be an inspiration to the rest of the country. Producing a great deal of what we use at home we are so placed that if we back each other up we could bring off a big expansion. And if we do succeed I shall be the first to give the credit to the management and

**MR. MACMILLAN Speaking  
at Nottingham said:—**

men on the sites. I can, perhaps, help to give you the chance but you alone can take it.

We shall continue to rely upon local authorities for the broad direction of the Housing programme. We shall give them as much freedom and flexibility as we can. I know that there are some who believe that "the gentlemen in Whitehall know best." All I can say is that this is not the view of the gentlemen who now hold the most prominent positions in Whitehall. But if they have their job to do, we also have ours. Our job is to secure an ever-expanding Housing programme and to make available to that programme a constant and steady flow of materials. Unless we can do that, all our efforts and all our exhortations will fail. I have never believed in exhortation to workmen to work harder unless and until you can give them two essential things: a full order book and a steady flow of materials. A full order book gives confidence. It takes away the fear that if you work too hard you are in danger of working yourself out of a job. Well, I can make this promise to the building industry: I will see that the order book is kept full. There will be no arbitrary limitation by an arbitrary programme of 175,000 or 200,000 or any other figure of houses a year. There is no restriction; no rigid ceiling; no artificial limit. And the quicker you build, the more there will be to build. The more you finish, the more you will get. To satisfy the housing needs there is a vast, almost limitless demand. It will take a long time—many years—to build enough new houses to clear the waiting list. Besides that, we must make a start with replacing the old houses. There are many, far too many, old houses, dating from seventy to one hundred and thirty years ago, which ought to be swept away. There are many millions more that need either replacement or renovation. There is an immense task to be done. No one in the industry need have any fear that it will be done too quickly.

Nor need the local authorities hold back. When there was a fixed annual target they naturally hesitated to give to private enterprise even the permitted one in five of their allocations. But because the allocations for 1952 were largely made before the change of Government and had to be completed before I had time to formulate my plans, they may still be in some doubt as to what they should do. Nevertheless, although you need a full order book you must not feed into the pipe-line of production more than labour and materials can sustain. It is just as foolish to start too many houses as to start too few. At this moment the great thing is to get on with completions—to build more quickly—to do in 8 months, if we can, what has been taking a year, and even in some cases 14 or 18 months to do. In future, local performance will decide the local programme. From now on, the allocations are not a yearly slice of an annual cake. They are instalments upon an expanding programme. From now on, this is the slogan, for every local authority, for every housing contractor, and for every workman: "The quicker you build, the more you will get to build." For our policy—and I cannot repeat it too often—is not one of stabilization but of expansion.

But, you will say, what about materials? What about steel, timber, bricks, cement, tiles, plasterboard, and all the rest? Of course I know that the problem of materials is the central problem of all. It is, with that of labour, the chief limiting factor to an expanding movement. I know, too, that the shortage of materials has, during these six years, always been advanced as the reason for the modest rate of housing. Perhaps I may add that this should not have been so during at least part of this period. We might well have spent some of the dollar loans and gifts which we received from Canada and the United States on the purchase of timber and the like. I must also admit that, during this crisis of the balance of payments and until our economy is restored, we shall have to make sacrifices in other directions if we are to get all we need for Housing. On the other hand, if you accept statistics at their face value you will always find that almost any progress is impossible.

Somehow or another we have got to break through the statistical barrier.

We must study and repeat all the war-time methods of ingenuity, contrivance and improvisation. We must re-learn the art of getting more than a pint out of a pint pot. The first thing is design. We must learn to build more houses from the same quantity of materials. We must make the materials go farther. How do we do that? Here I must pay a tribute to my predecessor in office, Dr. Dalton. He initiated enquiries as to how council houses could be built, with the same standards and room sizes, but with a reduced superficial area. I have continued his work and as a result there is published a new booklet called *Houses, 1952*. It gives a number of specimen designs which all achieve this general purpose. I hope that very many of these "space-saver" houses will be built, if not in the 1952, at least in the 1953 programme. If anyone is able to go to the Ideal Home Exhibition at Olympia next March they will see houses built to these designs. I earnestly hope that the People's House will play a real part in the more rapid Housing of the People. In addition, there are many similar designs which are being built by private enterprise already, and will (I hope) make increasing contribution to the general solution of this outstanding problem—how to get more houses out of the same quantity of materials. I honestly believe that if local authorities will adapt their designs, this house will indeed prove to be worthy of its name. For it will be built quicker and cheaper.

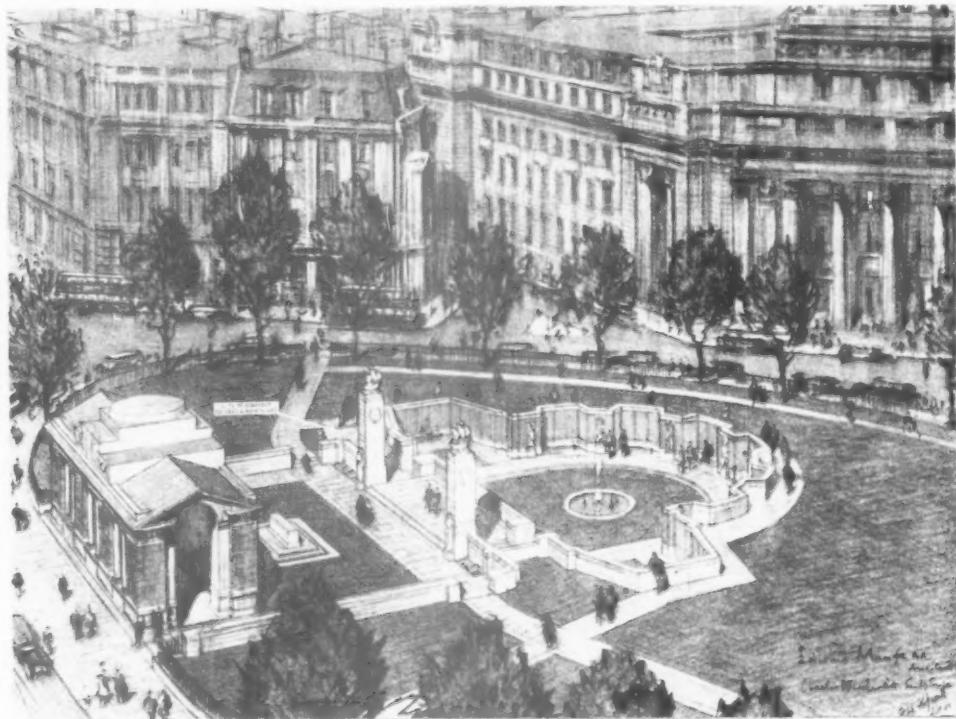
I spoke some time ago of the determination of my colleagues and myself to treat the building problem as a whole. Great quantities of cement, steel, timber and bricks—all our precious housing materials—have to be used in all kinds of building—power stations, armament factories, factories for

export, storage, and a hundred and one other purposes.

We must study—and enforce—all forms of economy: economy in design, simplification of production, substitute materials, and a hundred and one similar devices.

It is our job—at the Ministry of Housing and in conjunction with the other Departments concerned—to do all we can to ensure the flow of materials. We must provide the tools for the men on the spot to do the job. But since England and Wales cover a large area, and since housing comprises not one or two large enterprises, like the building of railways or reservoirs, but a host of small and separate schemes, and since I am determined to do all I can to improve the service which my Ministry can provide to each locality, I am taking steps to set up a piece of new machinery. This will consist of Local Housing Production Boards. These Boards will be on Regional basis. They will consist of the officers of the Ministries mainly concerned—Ministry of Works, Ministry of Housing, Ministry of Labour.

I am also inviting representatives of the appropriate employers' associations and Trade Unions to assist. There will be an independent Chairman to each Board. Their task will be to advise and assist. They will try to cut out red tape and simplify procedure; to help to solve the production problems which are thrown up from time to time and from area to area as the programme develops; to break bottlenecks; to overcome shortages; to deal rapidly with all the difficulties which will inevitably arise, and which are inseparable from the determination to move forward at a steadily growing pace. I trust they will also help to build up that enthusiasm, that moral urge, without which no great task can be successfully attacked and effectively completed.



A perspective of the proposed Memorial on Tower Hill to the Merchant Seamen who lost their lives in the 1939-45 war and have no known grave. It has been designed by Edward Maufe, R.A., in the form of a Sunk Garden surrounded by a wall inscribed with 25,000 names. The axis of the garden is centred on the 1914-18 memorial by Sir Edwin Lutyens. Charles Wheeler, R.A., is the Sculptor.

# EVENTS AND COMMENTS

## OFFICIAL OPENING OF THE BUILDING CENTRE

The Building Centre managed to maintain its usual friendly atmosphere even during its official opening by the Minister of Works. I saw a surprisingly large number of notabilities from the building industry there. Over seven hundred people attended, the majority of them were exhibitors at the Centre. The remainder being representatives of the architects and engineers contractors organizations. The Minister's speech was reported in last week's issue. He was introduced by Sir Giles Gilbert Scott, president of the Centre, and was thanked by Sir Alfred Hurst, chairman of the Centre's Executive Committee. The Mayor of Holborn also spoke. The speeches were all short, cheerful and to the point. I was particularly glad to see Sir Banister Fletcher there as blithe and cheerful as ever.

## FOREIGN BUILDING CENTRES

Among the guests at the opening were the directors of seven other building centres. Mr. W. C. Kirkwood of Glasgow, Arkitekt Kai Christensen from the Byggecentrum Copenhagen, Madame D. Poli from Le Centre d'Information et de Documentation du Bâtiment, Paris; Ing Jan van Ettinger from the Bouwcentrum, Rotterdam; Ing Ingvar Karlén from Byggtjänst, Stockholm and Mr. Furrer from the Schweizer Baumuster Centrale, Zurich. The services provided by all the centres are very similar with the exception that the Bouwcentrum undertakes research on all aspects of architecture and building. Although there is no official connection between the seven centres they work closely together. I understand that this meeting provided an opportunity for a day of discussion on problems of mutual interest. Quite apart from the service which Building Centres in general render to the industry in their own countries they provide most useful sources of information for building-minded visitors travelling abroad.

## WHERE NO ARCHITECTS TREAD

I thoroughly enjoyed myself at the L.M.B.A. annual luncheon at the Park Lane Hotel. Following the day after the celebrations at the Building Centre it had the same friendly and optimistic atmosphere. The Minister, Mr. Eccles, was his same debonair and well-dressed self and his speech, reported elsewhere in this issue, was lively, well delivered and hopeful without being too precise in detail. The four hundred and fifty or so, builders present seemed to like it well enough. Mr. David Woodbine Parish was duly installed as president at the Annual General Meeting afterwards.

Mr. Phillip Smallwood's remarks about "specifications which builders received and which they knew to be wrong" and the difficulties they were in because they "could not tell those who were trying to tell them how to do the job" could only have referred to architects. Mr. Smallwood said that the L.M.B.A. information service which had the backing of the advice of the B.R.S. could get the builder out of these difficulties. This is a serious point, just how serious I do not know but it does show how little co-operative spirit there is between architects and builders. Surely the proper way out of such embarrassing positions is for the builder to be quite open and frank with the architect if he thinks the architect is wrong. In these days of shortages and substitute materials some specifications

are scarcely worth the paper they are written on and there must be discussion between the parties on what is available and what is the best alternative. These is a tendency for architects to blame all builders and for builders to blame all architects. Better co-operation at all levels would help to improve this sorry state. It is a pity that some inefficiency in each side is allowed to form the basis of dangerous generalisations.

It struck me forcibly, sitting surrounded by so many hundreds of builders, that there must be something wrong with our building industry if the only reference to architects on the occasion of an important ministerial announcement on building was by inference and that in not too good a light. Mind you I am not saying whose fault it is that this should be possible.

## GLASGOW DILEMMA

An awkward situation has arisen on one of the Glasgow Corporation Housing sites. A certain area was set aside for an electrical sub-station from which the houses on the site were to be supplied with current. The houses are nearing completion and it has just been discovered that some of them impinge on the site allotted to the sub-station. The houses will be without electricity until the sub-station is built. I feel sure that the parties concerned will come to terms. Failing this the Electricity Board may possibly decide to take the law into its own hands like the man who, some years ago, started to knock down a building which impinged on a piece of his property. I wonder what happened about that job in the end.

## BUILDINGS WITHOUT WINDOWS

You will remember the U.S. vogue, started during black-out days, of building factories and, later, shops without windows. The I.L.O. has now officially complained about this practice on the grounds that such buildings involve greater fire dangers to occupants, owing to the difficulty of getting at the seat of the fire from outside. Further, in case of an explosion the lack of windows would allow the pressure to build up and provide a bigger and better bang. The third reason given, and I should have thought the most important by far, was that the shutting out of outside views might induce a feeling of depression. Metal window manufacturers and glass merchants may now breathe again.

## NEWS FROM THE UNITED STATES

Professor Gropius has just won a large prize for architectural journalism. The title of the prizewinning article was "Not Gothic but Modern for Our Colleges." Dr. Gropius is reported to have been very surprised at this success because he only learned English "a few years ago." An exhibition of Dr. Gropius' work organized by the M.I.T. and the Busch-Reisinger Museum of Harvard is touring seven U.S. cities during the year. I hope it will eventually come here. Meanwhile what of the Frank Lloyd Wright exhibition? All rumours of official help in this country seem to have come to nothing. F.L.W. was recently elected to the American Academy of Arts and Letters. Membership is for life and is limited to 50 creative artists whose works are most likely to achieve a permanent place in American culture.

## THE R.I.B.A. AND EX-SERVICE STUDENTS

The decision of the R.I.B.A. not to investigate alleged cases of hardship which have resulted from the strict interpretation of the new professional practice examination regulations is a very great pity. I believe that only a very small number of people are affected but it seems certain that some hardship has been experienced and it looks rather as if the R.I.B.A. has broken its word. No one quarrels with the new ruling about office experience and the final examination, indeed there are some who think that the new scheme does not go far enough. However, for an official body to admit that hardship exists and then

to refuse to investigate it is inexplicable. How much work and expense would it involve? Always remembering that the cost would be borne largely by R.I.B.A. committee members who serve in an honorary capacity.

## THE NEW AUSTERITY

By the time this reaches you the Government's scheme for keeping us going will be known. It will be, to say the least, interesting to see how this affects you and me on this page next week. Be of good cheer.

## A B N E R

## N E W S O F T H E W E E K

## "People's Houses" Opened

On January 23rd Mr. Harold Macmillan, Minister of Housing and Local Government, opened and inspected one pair of low-cost houses, erected as an experiment by the Market Bosworth Royal District Council on the Holmefield Estate, Desford, Leicestershire. These are a three-bedroom type of house, with living room and dining space, and large working kitchen, and with a total area of 900 super feet. The cost of these houses is £980 each, and as a measure of economy, the T.D.A. roof truss has been incorporated in the roof structure. The Minister said:—

"The opening of these two houses marks an important phase in the housing campaign. It also shows that old England has not lost the power of rapid decision and speedy action."

"The scheme was approved on August 30th, 1951. Building commenced on September 10th, and twelve weeks later the houses were completed.

"These houses conform to the famous so-called Dudley standard in room sizes, but they make substantial savings in materials by skilful design which has reduced the waste circulation space. These houses that you see to-day are, therefore, the pioneers. I hope they will be followed by many hundreds and thousands; for it is clear that in a period of difficulty, where we are faced with the shortage of foreign exchange, it is essential that we should get the maximum results from the materials available to us."

"£4,000 produces four of these houses, less than the cost of three of the former type.

"But there is something even more remarkable about these two; not only are they the first to be built, but they have been built in record time. Twelve weeks have elapsed since they were started to the day of completion. That is a splendid tribute to the energy and enterprise of the Rural District Council of Market Bosworth and of the builder, Mr. Sutton.

"Then there is something else about them which appeals to me very much and, I think, will appeal to every housewife and father of the family. Since they have been built for less than £1,000 apiece, the rent will conse-



Mr. A. G. Sheppard Fidler, M.A., B.Arch., F.R.I.B.A., A.M.T.P.I., Chief Architect to the Crawley New Town Development Corporation has been appointed first City Architect of Birmingham at a salary of £3,000 to £3,600 a year.

The creation of this post coincides with the publication of the City's Development Plan which incorporates the re-development of the City centre, new ring road, skyscraper hotels, etc. The City also has a vast housing programme.

Mr. Sheppard Fidler has been Chief Architect of the new town of Crawley since its inception in 1947 and has already completed detailed plans for almost half of the town.

quently be a saving of something like 6s 6d upon the current market prices on which our houses are now running.

"There you are, then; more of them; quicker to build; cheaper to rent; those are fairly good recommendations for the 1952 vintage. I hope it will be a very full one."

The Rt. Hon. David Eccles, M.P.,

Minister of Works, replied to the toast of "His Majesty's Government" at the Annual Dinner of the National Federation of Building Trades Employers, held at the Dorchester Hotel on Tuesday, January 29, 1952.

Lord Terrington responded to the toast of "The Guests."

## Cement Up

The Minister of Works has been in consultation with the Cement Industry on the question of the price of cement. The Industry indicated that the increased costs of coal, power, freights and other items justified an increase in price. They informed the Minister that it was their desire to keep such an increase to a minimum and to establish a firm price for the coming year, which would not be raised unless there were further major increases in costs. The increase in price has been fixed at 4s 6d a ton for ordinary and rapid-hardening Portland cements sold in the home market, to take effect from January 25. A further adjustment in prices in Northern Ireland, to cover the cost of sea transport, is under consideration.

On the basis of the assurances given price control over these cements has been withdrawn.

## Building Wages Up 3d.

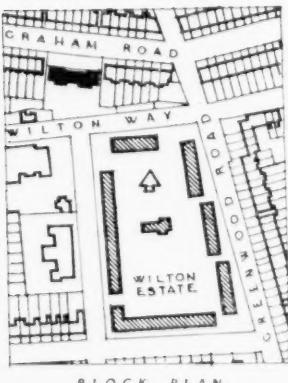
The National Joint Council for the Building Industry has granted an increase of 1½d per hour to the operatives. The effect of this increase, together with the 1½d an hour already agreed under the cost-of-living sliding scale clause, is that the wages of building trade operatives will be increased by 3d per hour as from February 4, 1952.

The Imperial War Graves Commission has approved the design by Mr. Edward Maufe, R.A., for a memorial to the 25,000 merchant seamen who lost their lives in the last war and have no known grave. The site of the memorial is in Trinity Square Garden, Tower Hill, behind Sir Edwin Lutyen's 1914-1918 War memorial to Merchant Seamen.



Living room balconies, South elevation

## Block of 12 Flats, Graham Road, Hackney



BLOCK PLAN

architects: NORMAN & DAWBARN

assistant architect: GERTRUDE W. M. LEVERKUS

Borough Engineer and Surveyor:

G. L. DOWNING, OBE, MICE



North elevation

THIS three-storey block of flats, in Graham Road, is part of a development scheme, which will ultimately take in the whole area between Wilton Way and Graham Road and between Greenwood Road and Massie Road. It will form part of the estate known as the Wilton Estate, illustrated in the *A. & B.N.* of 6/10/50.

The new block consists of 6 three-bedroom flats, 2 two-bedroom flats, 2 one-bedroom flats and 2 bed-sitting rooms. The latter, on the ground floor, are intended for the use of old people. There is also a maintenance store and 8 pram stores within the main building and an open loggia facing south.

Laundry facilities are afforded on the adjoining Greenwood Road Site. Refuse collection is from a small disposal kiosk on Wilton Way. Hot water is from back boilers in the living rooms and immersion heaters in the cylinders for summer use.

The construction of the block consists of weight-bearing brick walls and hollow tile concrete floors and roof slab. The roof is insulated with a screed of aerated concrete covered with three-layer felt roofing. Facing bricks are mild stocks, walls to access galleries are colour-rendered, and walls to balconies rendered and colour-washed. Staircase walls are finished with a cement glaze, treads and risers in grano.

The internal flooring is pitchmatic, and it is possible that tenants will cover this with linoleum, since they have done so in other local cases where more expensive finishes have been used.



*Notes from the Minutes of the R.I.B.A. Council Meeting held 8th January*

Before the Council proceeded to the business of the meeting a short and informal talk was given by the Right Hon. David Eccles, M.P., Minister of Works.

*Appointments*

- (A) *University of London Architectural Education Committee: R.I.B.A. Representatives for Year 1952-53.*  
Mr. Anthony M. Chitty, F.R.I.B.A., and Mr. Philip G. Freeman, F.R.I.B.A.
- (B) *Code of Practice Committee to draft a Functional Code on "Daylight."*  
Mr. P. V. Burnett, F.R.I.B.A., and Mr. George Whitby, A.R.I.B.A.
- (C) *R.I.B.A. Representatives on B.S.I. Committees.*
  - (i) *PLC/9: Polythene Tubing.*  
Mr. R. Cotterell Butler, A.R.I.B.A.
  - (ii) *Terminology for Roof Covering.*  
Mr. Lister P. Rees, A.R.I.B.A.

*Examination Fees*

The Council approved an increase in the fee for a relegated candidate who takes separate subjects again from 10s 6d to one guinea per subject. The increase takes effect as from 1st January, 1952.

*Indigo Jones Tercentenary*

The Council approved a recommendation of the Library Committee that discussions with other appropriate bodies be initiated, with a view to commemorating the tercentenary of the death of Indigo Jones by a suitable exhibition illustrating his work.

### British Standards and Housing Programme

What could well be described as the "Parliament" of the building industry met last week under the auspices of the British Standards Institution. Among the thirty people present were leaders of practically every building supplies industry—from asbestos and cement to stone and timber, and from builders' plants to sanitary ware. There were also top representatives of the National Federation of Building Trade Employers, of the professional institutions (architects, surveyors, and civil, municipal and structural engineers), and of the Government departments concerned in the housing drive.

The purpose of the conference was to decide what urgent steps could and should be taken to adapt the work of the B.S.I. and more particularly the 300-odd British Standards for building materials and components, so as to help the industry meet the current demand for increased output of small houses.

As in other directions, it was con-



*Mr. J. Ian Robertson, F.I.O.B., President for 1952 of the National Federation of Building Trades Employers. Mr. Robertson, who is 45, is a director of Thomas Lowe & Sons Ltd., building & civil engineering contractors, Burton-on-Trent.*

cluded that the smaller builders had an important part to play, and that it would be of practical help if they were given quick information about those British Standards which directly affect house-building, as distinct from those concerned with larger projects and with ancillary supplies and services.

A special list of such standards is to be prepared immediately and will be given the widest possible circulation among builders, local authorities and others interested.

In addition, all current British Standards in the building field are to be reviewed by the qualified technical committees to ascertain what must be done to secure the most economical use of scarce materials. Where necessary and possible, the specifications will be modified so as to reduce the drain on such materials. In other cases new specifications will be issued to permit the use of suitable alternatives.

This programme represents a heavy load of work for the many technicians in the building and associated trades who serve the national interest through the British Standards Institution. It is, however, to be tackled with all possible energy and speed, and the Building Divisional Council believes that useful results will emerge in the coming months.

### OBITUARY

The death has occurred, on January 22, of Mr. George Alexander Sexton, J.P., L.R.I.B.A., at the age of 83. Mr. Sexton received an M.B.E. in the New Year Honours.

### APPOINTMENT

Mr. Clifford Holliday, M.Arch. (Liverpool), F.R.I.B.A., Dist.T.P., M.T.P.I., Architect to Stevenage Development Corporation, has been appointed Professor of Town & Country Planning at the University of Manchester.

### ANNOUNCEMENTS

Mr. O. H. Collins, M.A., F.R.I.B.A., F.R.I.C.S., M.R. San. Inst., announces that he has taken into partnership Mr. M. Glicker, A.R.I.C.S., as from the 1st November, 1951.

The style and title of the practice will continue as before (M. E. & O. H. Collins, 115, Old Broad Street, London, E.C.2).

The West Riding County Council has approved the new scales of salaries for senior officials, including the County Architect, which are now in the £2,700-£3,000 a year bracket.

### COMING EVENTS

*Student Planning Group.*

February 7, at 6.30 p.m. Discussion on "Planning is not Compatible with Democracy." Proposed by Peter Sellers, of College of Estate Management. Opposed by David Tandem, A.A., Hons. Dip., A.R.I.B.A., at 28, King Street, W.C.2.

*Royal Institution of Chartered Surveyors.*

February 4, at 5.30 p.m. Ordinary General Meeting. Address by Desmond Heap, LL.M., L.M.P.T.I., Comptroller and Solicitor to the Corporation of the City of London, on "Land Planning and the Powers of the Executive," at 12, Gt. George Street, S.W.1.

*R.I.B.A.*

February 5, at 6 p.m. General Meeting. Address to Students by Robert H. Matthew, C.B.E., A.R.I.B.A. Criticism of work submitted by Donald H. McMorran, F.R.I.B.A. Presentation of prizes, at 66, Portland Place, W.1.

*The Housing Centre.*

February 5, at 6 p.m. Talk by Derek Plumstead, A.R.I.B.A., on "The Future Development of Edinburgh." Chairman: Sir Patrick Abercrombie, M.A., F.R.I.B.A., M.T.P.I., at 13, Suffolk Street, S.W.1.

*T.D.A. and N.F.B.T.E.*

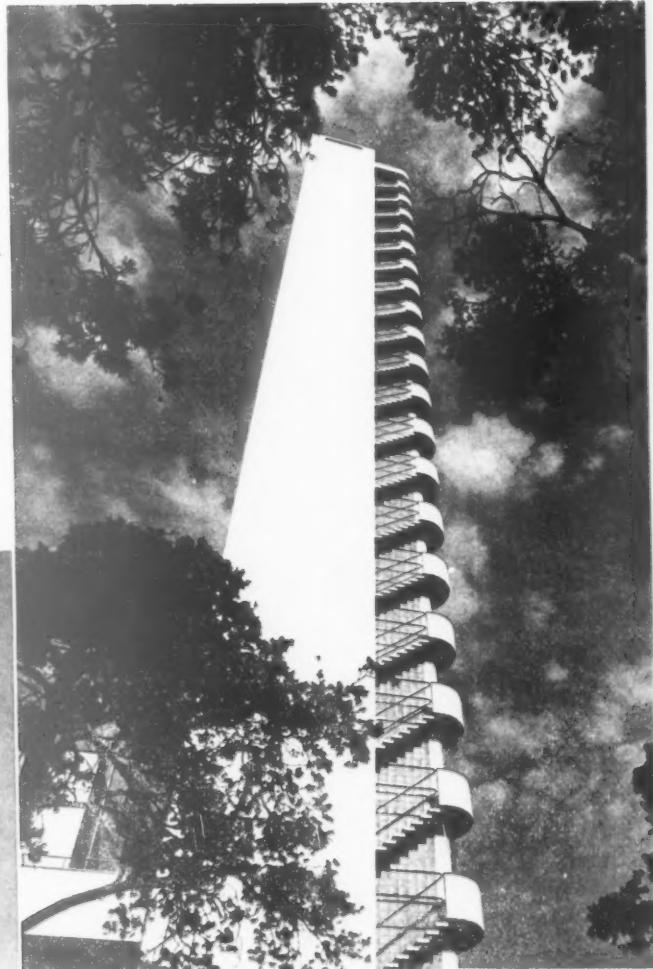
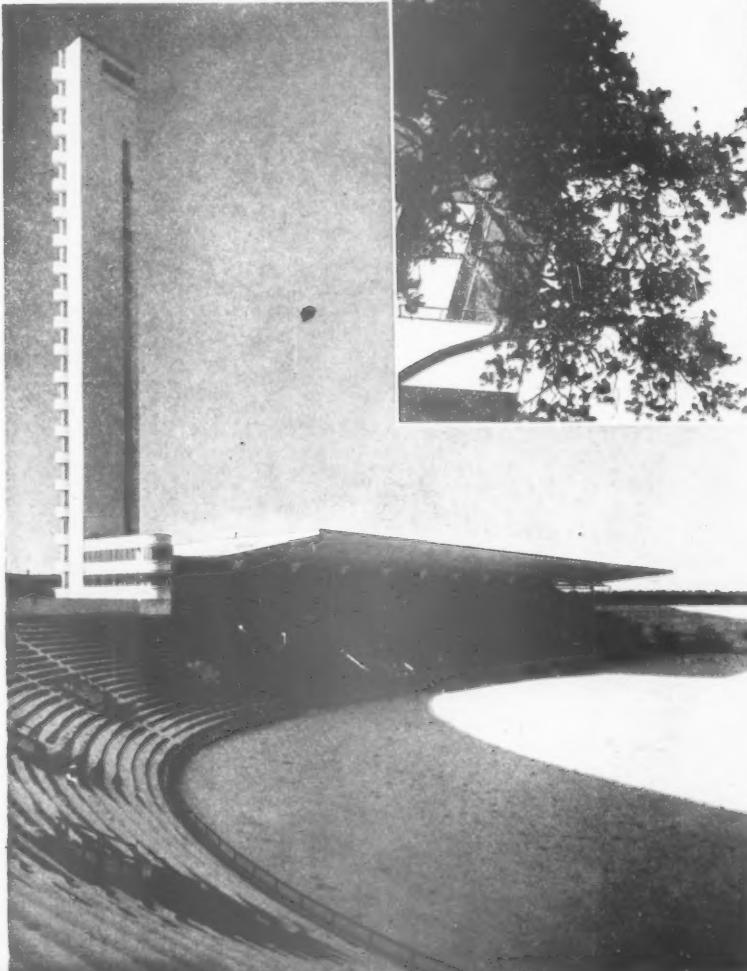
February 6, at 4 p.m. Talk by R. P. Woods, Chief Scientific Officer, T.D.A., on "To-day's Timbers, their Uses, Availability and Comparable Cost," at Liverpool School of Architecture, Liverpool University, 26, Abercromby Square.

*Town Planning Institute.*

February 7, at 6 p.m. Talk by W. F. B. Lovett, B.A., F.R.I.B.A., on "The Strategy of Development," at Caxton Hall, S.W.1.

OLYMPIC  
STADIUM  
HELSINKI

architects:  
YRJO LINDEGREN  
& TOIVO JANTTI



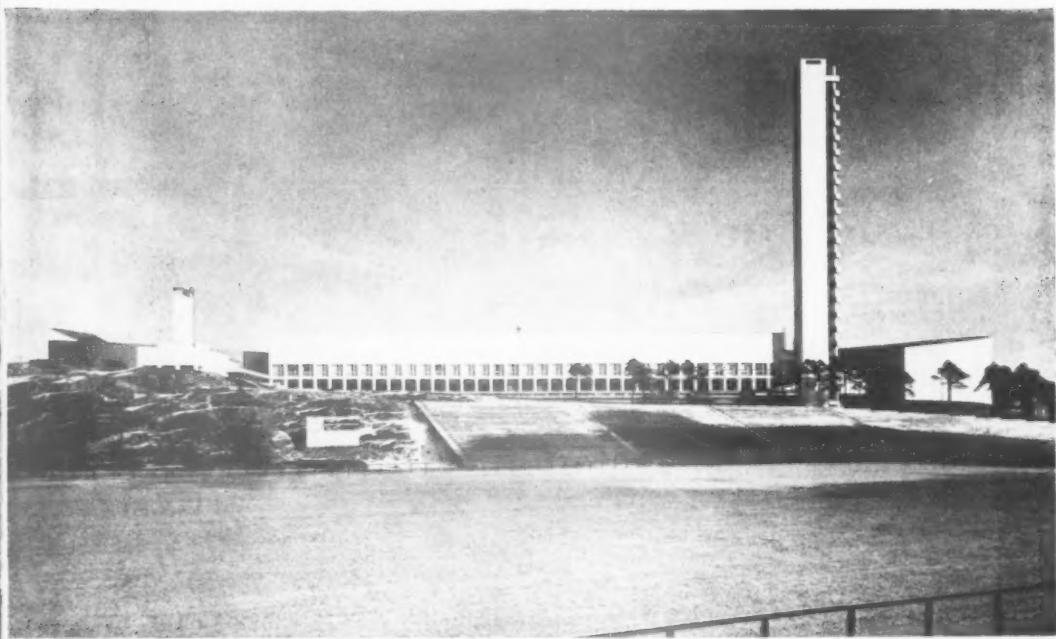
The tower at the southern side of the stadium has a lift, central ventilating duct, a wireless telephone aerial, rooms for broadcasting and announcing results, and for lighting arrangements. A television apparatus is to be set up on the top.



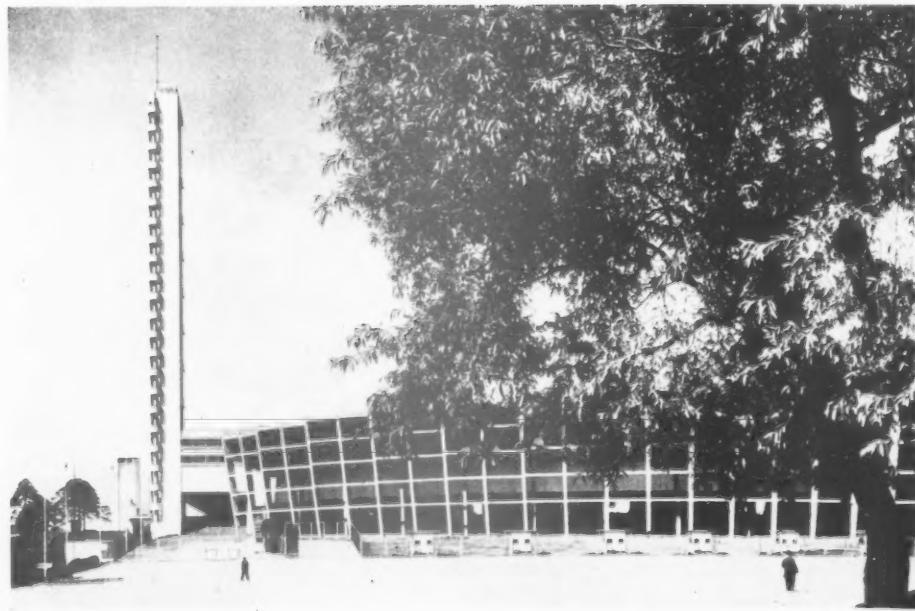
*The covered stand is 105 metres long and 24 metres wide*

*The Olympic Stadium, Helsinki, from the air*





*The Olympic Stadium in Helsinki is sited on rising ground in the wooded centre of the town. Originally it was built for 25,000 spectators but temporary stands were added to accommodate 62,000 spectators. These have now been replaced with reinforced concrete stands giving accommodation for 50,000 spectators in the stadium. For the 1952 Olympic Games stands for an additional 20,000 persons are being erected. The centre grounds include a 400-metre running track, a grass football ground 100 x 65 metres, and the prescribed space for field athletics. Space below the covered Grand Stand is used as follows : the first floor contains the dressing rooms, rooms for physical research, a cinema and lecture room, a 70-metre long training space with earth track for use in winter, and a small café. The large dressing rooms are used in winter for gymnastics, wrestling, boxing, fencing and basket-ball. The second floor of the Grand Stand serves as the entrance hall for spectators, and restaurant. On the third floor are the stadium offices, press rooms, post and telegraph. These rooms and offices have a separate entrance from the west side.*





Olympic Stadium  
Helsinki. Above:  
the promenade of the  
East covered stand and  
left: stair detail.

architects:  
LINDEGREN  
& JANTTI

# EXPRESSION IN MODERN ARCHITECTURE

A paper read by **FREDERICK GIBBERD, F.R.I.B.A., M.T.P.I.**  
at the R.I.B.A. on January 8

THE words "modern architecture" I take to mean: that contemporary building which seeks to convey beauty by way of the use of the building, and of the construction of the building, rather than through the application of decorative devices from past architectural styles. That is not to say that a functional building will be beautiful, or that a well constructed building will be beautiful, but simply that beauty develops from the expression of function and construction.

Modern architecture is emerging from its transitional stage—its Jacobean period—to become a generally accepted style with its own characteristics, its own idiom—its own clichés if you like. The South Bank, the Royal Concert Hall, the Trades Union building, the work on the drawing board of almost any architectural student, have sounded the death knell to revivalism. There may be a residue of Government buildings to come, but they will be its last expiring gasp.

The word "expression" in connection with buildings is generally taken to mean what its appearance conveys to us. That is obviously a very wide meaning, which is why I chose it, as it enables me to talk about any aspect of appearance. One may say that architecture expresses the civilization that made it; its politics, its religious feeling, its economic state, and so on. But to most architects "expression" in buildings means the aesthetic expression of individual buildings.

This is a complex, a matrix, of three different aspects of expression: the expression of construction; the expression of use to which the building is put—its function; and the expression of the personality of the designer. Different buildings stress different aspects of these three expressions; construction is dominant in a half-timbered house; function is dominant in a railway station; personal expression is dominant in the work of gifted individuals like Wren and Lloyd Wright.

Gifted designers invent new forms in solving the functional and constructional problems. These, if they become accepted, develop into a series of conventions which are used without question, and which when used in sufficient quantity make a recognizable style. After the initial process of pure invention—the pointed arch, the glass wall—the task in design is the less spectacular one of refining the accepted solutions and assembling them in new ways.

That is the position to-day.

The first manifestations of a new style always tend to be crude. In the case of modern architecture they have been exceptionally insensitive because the scale has become so large, and because of the use of machines. The task is not only that of using the new forms more sensitively, but of harmonizing them.

I am not, of course, suggesting that a new style sweeps away all that has gone before it. In many instances the old conventions are still the right solutions and there is no point in discarding them—I say that in spite of being called a romantic, or a "new empiricist." There

are, too, many instances where a traditional form may require only slight modification through some minor change in building technique.

Neither do I say that there are not quite new forms waiting to be invented; but I do repeat that the chief task that faces our profession to-day is to refine and to assemble in new ways, the forms that modern architecture has given us. Not all of them, because some are too personal to be repeated many times; and some, for one reason or another, aren't worth repeating.

In the past the conventions of a new style were used consistently, as taste and building technique were consistent. But in our present position of social upheaval the characteristic forms of modern architecture are being used without being understood; the superficialities of modern architecture are being applied to building in a crude and often barbarous manner—resulting in what has been called "modernistic design." Parallel with the development of modern architecture there has appeared a vulgar and pretentious building which has no more real affinity with modern architecture than it has with revivalism—and is inferior to either. The battle is not now between modern architecture and revivalism, but between modern architecture and modernistic or "jazzy" building.

It is necessary to test contemporary

clichés and to see whether they have in fact their roots in the expression of function and construction; whether they are being applied in their right context; and whether they are as sensitive in form as possible. This we will now do with some typical modern details.

## Expressing the Hole in the Load-bearing Wall (See Diagram 1)

Let us take, to start with, a very elementary problem like placing a window in a load-bearing brick wall. How may we express the functional problem of supporting the brick over the opening?

The traditional solution is, of course, a brick arch—a simple structural solution that has from Wren onwards been given a most extraordinary diversity of aesthetic expressions for so simple a device (A). With the pre-war small house or cottage the room changed in proportion through social changes, and the window changed with it to become wider than its height. The brick arch changed to a row of bricks on edge partially supported by the window mullions (B). The contemporary metal or wood window is not designed to carry any load; if we see a row of bricks on edge over it we know they are not a lintel, but must in fact be themselves supported. What was once a decorative expression of construction is now only a decoration that makes construction more difficult. If we want the effect of a hole

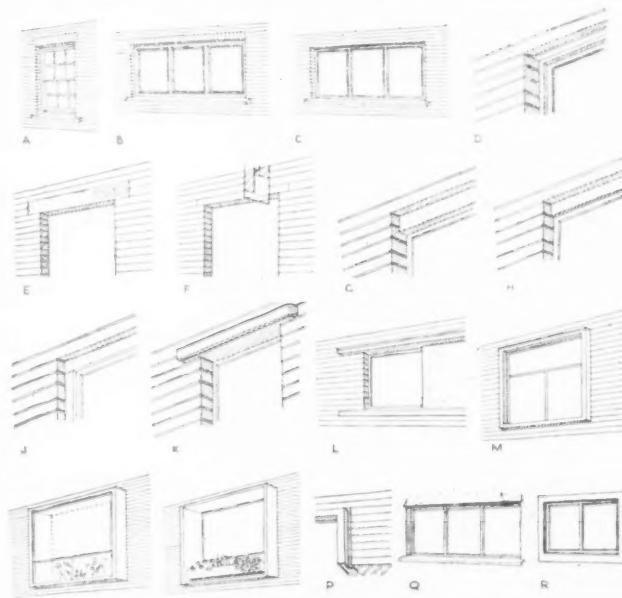


diagram 1

in a plain expanse of brickwork then we can get it quite simply by running the courses straight over the opening and supporting them on a steel angle iron (C).

This now accepted convention has a weakness when seen close to, because the bottom flange makes rather an indeterminate plane between a brick face and the window frame. It is too slight to have much visual significance in itself. Do you assume it is part of the window? —when it puts the other window members out of balance; or do you try in some way to make it look as if it belongs to the wall?

A recent house by Davis and Moro carried the angle right round the opening to form a most attractive frame with a thin edge (*Architect and Building News*, February 18, 1949); but this is expensive, and moreover, steel is subject to rust. The obvious solution is to cover the angle by a wood sub-frame or lining, which may be carried right round the opening to underline its shape—a decorative expression evolved from a functional form (D).

The common method of bridging an opening to-day is of course by the reinforced concrete lintel. The purely functional engineer's solution (E) looks very clumsy and heavy, and there is generally too great a contrast in colour and texture with the brickwork. Some architects use it when the building is colour washed, but they usually cast a pattern on the surface to get the texture more in scale with that of brickwork.

The new form which has developed out of the problem of refining the concrete lintel is the boot lintel (F). This amounts to using the rear of the lintel to support the wall, and cutting back the front to a narrow band to support the facing bricks. (G) illustrates the first stage in its refinement to cut it back at the ends and put it behind the wall face to make it look more like a supporting "toe," which is what it is, and less like a lintel, which is what it is not. But (G) also shows two common faults: the "toe" is so deep that it both looks clumsy and conflicts with the brick courses; and the window is set back so far that the "boot" has a rather heavy square section. Perhaps this is very obvious, but I can show you it featured in a large new block of flats not half a mile from Portland Place.

(H) corrects the faults by making the lintel coincide with the brick course, and bringing the window forward so that the lintel is only a narrow band.

I don't much like the boot lintel, because it seems to conflict with the rectangular pattern of the opening. I prefer to use it with concrete or stone slips down the sides to complete the pattern, as in (I). This often has an additional advantage with steel windows in that the shape of the opening can be underlined—almost an impossibility with the modern narrow section steel windows.

There are many instances where the boot is projected in front of the wall space to give the effect of a little hood over the window (K). This introduces a new aesthetic problem, that of weathering. It is necessary that the top edge of projecting surfaces should be flashed to prevent soot and rain forming a streaky profile. One of the greatest disservices architects have done to the modern movement is to be careless about the effect of the weather.

So many of our forms to-day are precise because they are made with the assistance of machinery, and it is absolutely essential that this precision should be retained for the life of the building. The flashings to projecting surfaces like

hoods, canopies, and overhanging concrete roofs) need to be tight sections that throw the water clear and do not conflict with the surfaces they are protecting. (The Zinc Development Association have some publications on this subject worth examination.)

A square end to the lintel tends to look rather clumsy, and most people curve it back, as on the right hand side of the diagram; what looks to me perfectly horrid is just to carry it on past the window and stop it in an arbitrary way (L). Here is the point of departure from modern to modernistic design. As with the recessed boot, the lintel often looks best when it is returned round the complete opening as in (M).

Do not mistake me about this, we are considering a hole in the wall. If, for functional reasons, the window was a long continuous slit there might not be the same need to frame the opening.

The projecting frame can make the window a very dominant object in the wall, and it is usual to reserve it for points of emphasis or punctuation; for example, in a block of flats it might be used for the living room windows, the other rooms having recessed windows. You will notice the window is set back roughly to the centre of the surround. This seems to me to make the projection a bit pointless, and my inclination is to place the window on the front face so that one has a good deep sill inside the frame (N). This gives the equivalent of the bay window; a place to set a pot of flowers, or objects of art such as young ladies straining at the leash with greyhounds. It is, moreover, far more economical than the bay because it doesn't waste floor space and requires no foundations. I tried this out on the B.I.S.F. house at Northolt, where the section was formed in pressed steel, the window consisting of steel cottage sections combined together to form a 6 ft square bay. It was hotly opposed at the time, but has since become an accepted chie.

When the projection is large it is necessary to taper the section so that the front edge will not look heavy and clumsy.

There is a special case in which the window might be set at the back of the surround, and this is where the sill is used to support the flower box, as in (O). Apart from this, such setting back can only be justified when it is desired to emphasize the thickness of the wall, or draw special attention to the window. It is a commonplace that the farther the window is set in the wall the more massive the building will appear; more of the wall thickness is revealed and deeper shadows are cast into the opening.

It was a characteristic of many early buildings of the modern movement that the window was placed on the wall face; thus, by making the wall and window read as one plane, eliminated the effect of mass and expressed the wall as a skin. This is perfectly legitimate when the wall is an envelope, but when it isn't we expect the wall thickness to be expressed.

The usual 2½ in set back is perfectly adequate for the usual cavity wall; when the wall is thicker it may sometimes be worth pushing the window farther back. Concrete linings are often used to set windows deep, but they tend to exaggerate the opening too much for normal circumstances; the 18th-century trick of rendering and painting the reveal is the obvious solution, or alternatively a thin material might be used; they do it perfectly in Italy, where marble is cheap.

In any event I always reduce the width of the projection, as in (P), as apart from

making the surround less clumsy it enables a recession to be made between the brick face and the concrete projection—a more subtle arrangement than just projecting straight out from the brick face.

Supposing now the brick wall is rendered, then the obvious way of treating the opening is to carry the rendering over the lintel to form one continuous wall plane. The traditional detail, which I have tried to show in (Q), has the plaster slightly brought out over the window head to form a drip. This is a craftsman's job and is seldom done to-day.

In the early days of the modern movement many architects rendered the brickwork to make it look like the r.c. wall. It never quite came off because one usually saw a deep reveal through the window; nevertheless a plain rendered brick building does remind one of reinforced concrete, and for that reason I am never quite happy about it. It is a curious case of a traditional use being spoilt by a convention now becoming associated with a quite different modern technique.

Sketch (R) shows one traditional method of treating the opening which is quite clearly a rendering technique, and not a reinforced concrete one. It amounts to forming a smooth cement band round the window and painting it a different colour from the wall.

I have only scratched the surface of the problem of the expression of a hole in a wall; but sufficient, I hope, to show what interesting expressions it is capable of. If you think of all the other aspects of detail design—copes, fascias, eaves, balconies, porches, and a host of others—you will agree what a wide field there is for refining the accepted conventions.

#### Expressing the Load-bearing Wall

When we come to arrange the openings in a load-bearing wall we do so as a balanced pattern that doesn't confuse the idea of the weight being carried down to the foundations by the wall masses.

In a terrace of small houses with load-bearing external walls, there is little difference between the contemporary expression and the traditional ones. The living-room windows may be larger, but modern clichés like the corner window or pronounced horizontal or vertical treatments will generally be discarded as being foreign to the structural system.

If, however, we construct the houses by a series of load-bearing cross-walls, then we arrive at a different expression. In this, the parallel cross-wall system, we express the load-bearing function of the cross-walls by emphasizing the edges, and leaving the end façade as blank as possible) and treat the front elevation as an infilling.

The cross-walls can stretch between the cross-walls and the wall under them be designed as a framed panel spanning between the walls. Or the blank panels may alternate between the windows. Both are examples of a typical contemporary expression—a façade with a horizontal direction held and restrained between blank walls; an expression which in this instance makes sense, but is quite meaningless when applied, as it so often is, out of its context.

There are many instances where we may combine the expression of the parallel wall with that of the load-bearing external wall.

#### Expressing the Wall as a Flat Plane [See Diagram 2]

One of the characteristics of modern architecture is the juxtaposition of wall and window for the complete height of a room, and with it the idea of the wall as

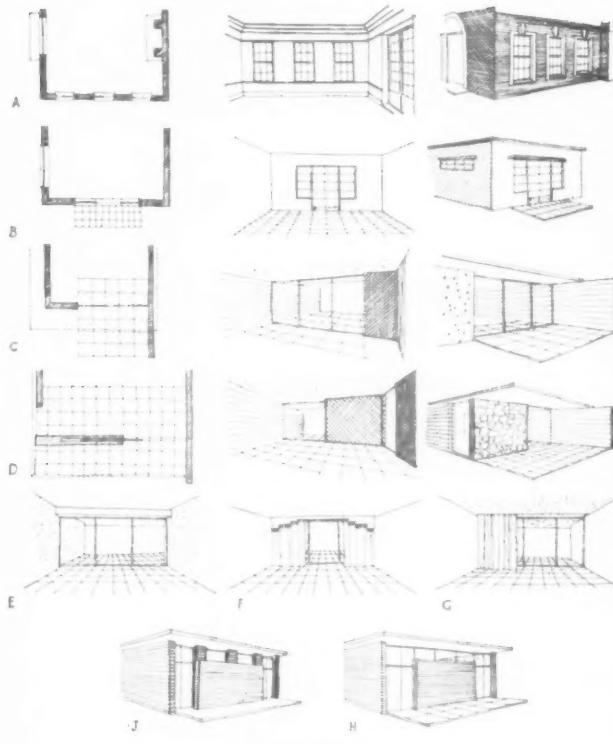


diagram 2

a flat vertical plane. The complete expression of the wall as a plane is, of course, bound up with the contemporary open plan. That is a plan in which there is an interpenetration of space—a flow between the internal spaces of the building and those outside it. This means, of course, a loss of privacy between the inside and outside. The most numerous and the most complete examples of spatial interpenetration with dwellings occurs with the detached bungalow, for the simple reason that all its rooms are on the ground floor, and all may be in contact with the garden spaces. And it is with this type we find the most characteristic uses of the wall as a flat plane.

Diagram 2 illustrates some simple points on the use of the wall as a flat plane.

(A) shows the traditional box-like room: a self-contained space body with apertures for light and view.

(B) shows the modernistic room: the ceiling has become lower and the proportions have become more horizontal. Through the desire for greater contact between house and garden, the doors and windows are brought together as a wide opening, which is reflected in the terrace. The r.c. lintel makes such an opening possible.

(C) illustrates the room surrounded by flat planes: the window is brought into juxtaposition with the wall; it extends to the ceiling; and the wall itself stretches out into the garden. The wall is no longer one side of a cube, as in the two previous

examples, but a flat vertical plane; a plane which slides the internal space into the external and a plane with space round three edges. We have almost the sense of being able to see both sides of the wall.

The effect is most pronounced when the wall has the same finish inside as out, and since internal materials can seldom be used outside, the tendency is to bring external weathering materials into the rooms themselves. The random stone wall extending into the sitting room, a fireplace wall of facing bricks, are details no first-year student can dispense with—and which are fast disappearing from the drawing boards of those in the fifth year.

In the next sketch (D) another window is juxtaposed with the front wall so that the wall becomes a plane with space around all its faces. And we might assume that the internal walls of such a house would be designed as flat planes or screens of different colours and materials. When the wall planes are of different materials the idea of a room being a mere sub-division of a larger space finds its most complete expression. Instead of being surrounded by continuous walls at right angles to each other, and knitted together by the lines of the skirting and cornice, we have a series of planes each complete in itself, but held in space by the roof and floor planes.

If you do isolate walls in this way it is important that you do the job properly. For example, if a lintel is necessary to support the roof, as in the next sketch (E), it disturbs the flat roof plane; it

breaks into the rectangular pattern of the wall; and it spoils the tensions between the two walls.

So important is it that there should not be a connection between the two wall planes that even a pelmet board may ruin the effect (F). In America it is possible to buy a curtain track which can be built into the plaster, and which has a slide fitting which holds the curtain tightly against the ceiling (G)—an example of mechanical device being invented to solve an aesthetic problem.

I am not, of course, condemning lintels or lintels across openings, but simply their use with this particular idiom.

In this problem of eliminating the lintel, we need to watch that we do not force the structural system into an expression foreign to it. I have seen sketch designs for small houses with isolated load-bearing walls and flat roof planes that could not be built.

You will nearly always find that when the space is sub-divided by a whole series of floating wall planes, columns are used as the supporting elements. The columns are usually very slight, like round steel, as this causes the least disturbance to the space. Some of you may have seen published recently details of an American house supported by tubes. Angle irons were welded to the top of the tubes and the floor joists notched on to the angle irons so that the ceiling could be one flat even plane.

If external walls are held apart in space in a horizontal direction, why should not the roof be parted from the wall, so that it too floats as a plane, as in (H)? There is no reason whatsoever, providing always that the wall really is independent of the roof. The floating roof needs supporting columns. To build piers in different coloured bricks, as in (J), is a decadent decorative device. Few of us object to decoration as such, but we never feel really satisfied with it when it is associated with an alien structural method.

#### Expressing the Multi-Floor Framed Structure (See Diagram 3)

**Pyramidal versus slab forms.** I should now, by way of comparison, like to switch to the expression of the function, and of the construction, of multi-storey framed buildings. Since there are so many kinds, we will narrow down our enquiry to a simple office block.

In its simplest possible terms, the functional requirement is a well-lit and adequately warmed space, of rectangular shape and free from obstruction. This is usually provided by a long floor space, with windows on one long side and a corridor on the other; which floor space can be sub-divided by partitions into rooms of standard depth but varying width. The heights of the rooms and windows are identical on all floors. The depth is seldom more than 24ft as at this dimension the light at the rear of the room is generally poor. The width of the building is restricted by the natural lighting and cannot be more than the depth of two offices plus the central corridor (A).

The external elements (shown in B) are: the floor slab; the window, which stretches from column to column so that the lighting is as even as possible; a panel under the windows to hide the legs of the typists (this panel is also sometimes used as a mounting for radiators, and is required in London as a fire barrier); and finally the structural frame holding these elements in space. The resultant building is a tall, wide, but narrow structure, like a book on edge. The long façades will

be a geometric grid of windows and panels, and the end facades (since no light is needed through them) will be a blank wall (C).

It is not necessary for functional reasons for the upper floors to be set back; and it is not only unnecessary for structural reasons, it is bad practice to set them back. The resultant form is absolutely different from the so-called traditional expression of the office building—and, for that matter, many so-called modern ones.

The old form—an expression of mass—is shown in (D). The composition builds up from a broad base by a series of set backs into a pyramidal form. It is an expression neither of a constant office depth nor of a steel frame—imagine building the corners in steel. This building up into an appearance of mass was the main pursuit of many distinguished architects between the wars. Much as one admires Lutyens' skill and ingenuity with set backs, he was in this respect in a blind alley.

We cannot afford the Renaissance box of tricks these days, although I must confess I have seen some surprising things at the Royal Fine Art Commission. But the desire to produce a pyramidal mass-like form is still an obsession with many architects. (E) shows one of the typical forms this produces: although wings project out to get light into the offices, the total effect is still of a solid carved block—a sculptur-esque rather than a spatial approach to design.

Now most office buildings require some large, deep meeting rooms, which may be placed on the ground floor in horizontal form, in contrast to the vertical office

accommodation. Apart from the splendid opportunities this assembly gives for architectural composition, it is of great significance in town design, as it enables two types of spatial composition to be achieved: the building standing in space, as a plastic composition; and the enclosed urban space, formed by grouping buildings together—a piazza or "space body" as opposed to the plastic body of a building. (F) illustrates the principle: the main office blocks stand in space as towers or slabs, but the lower floors are brought forward and related to each other to form enclosing walls to a civic square.

As architects we have so long had to struggle with the tyranny of the corridor street that we almost take for granted distorted building forms like the flat iron, and the general public have accepted them as a normal expression. But they are not. The logical expression of an office group is an assembly of narrow buildings standing in space with possibly spatial definition at ground level. Such an expression may be made possible by the development plan, plus a general understanding of daylighting codes and the floor space index.

**Expressing the Wings.** When the site is developed in depth it may be possible to assemble the accommodation as a series of slabs as in (G) (based on a technical college I am building). However, many buildings will need to be developed with wings, such as the L, the Y, and the cruciform plan types (H).

The danger with these assemblies is that unless the office-like character of the wings is preserved they may easily indicate a deep or massive building. For example, if the building is of an L shape

and the façade pattern is carried straight round the external angle as in (J) the effect is often of a building with great depth. It is like looking at the corner of a box. But if the individual wings are expressed, say, by making a blank wall for the depth of one wing as in (K), or by keeping the wings apart as in (L), then the way the building works is made quite clear.

It is surprising the varieties of abuse of form that take place with the junctions of the wings. I have seen one block just placed across the end of another, as in (M), giving the impression that it will slide away any moment; or one block charging into another, as in (N); or, again, a long façade broken by violent vertical features, as in (O).

It is nearly always necessary to introduce a negative form between the wings to prevent the façade patterns coming into conflict. There are all kinds of solutions; (P) and (Q) are obvious.

I have not time to consider the expression of the stairs—the most abused element in contemporary building. One would imagine, looking at some of them that they express a shrine for some fearful god, not the vertical circulation of office workers.

Neither can I deal with the housings of lift motors and tanks, save only to remark that they do need designing; and that it is generally unwise to let their forms break up the rectangular form of the office grid. Obviously, when freely designed on the roof, they give tremendous opportunities for producing an interesting silhouette. How disappointing the United Nations Building is in this respect!

#### Expressing the Framed Façade (See Diagram 4)

We will now consider some of the more typical elevations that have been evolved for the framed office building. The members are very few: the floor slab, the column and beam, the window and the panel. Which of these elements do we express?

The "Classic" revival disguise (A) is now out of fashion, but the "shorn Classic" (B) or the "Classic-modernistic" (C) are still favoured when a dignified effect is sought.

(B) gets some more floor space by adding a mansard, but sheds the classic trappings. It does however retain the proportions of the classic order, which neither expresses the proportions of the rooms behind the façade nor the structural frame.

(C) is an improvement, as the windows indicate the even floor height, but they are a "hole in the wall" rather than a frame expression. The ground and top floors carry on the tradition of the classic rusticated base and attic, but in a modern idiom—the continuous horizontal window pattern and the projecting flat-roof plane. Both are horribly macabre in such a context. You may remember, by the way, that there was quite a run on this particular combination for Town Hall competitions before the war.

Since the office bay is generally wider than it is high, and since we need wide as well as high windows for lighting, it is more logical for the openings to have a horizontal rather than a vertical direction. A single pattern of wide rectangular windows as in (D) is a better expression than the previous examples.

The windows may be joined together vertically by panels, of say, cast iron between them as in (E). This is a favourite expression for telephone exchanges—I have not the least idea why. The building looks to me no more as if it

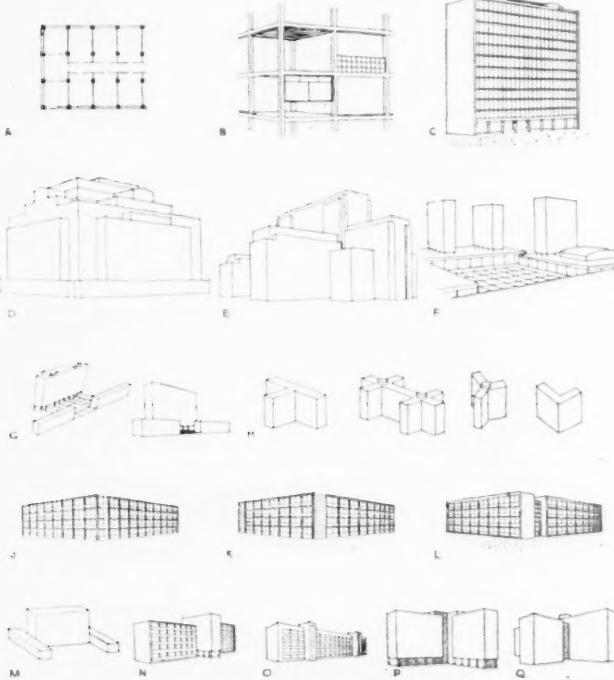


diagram 3

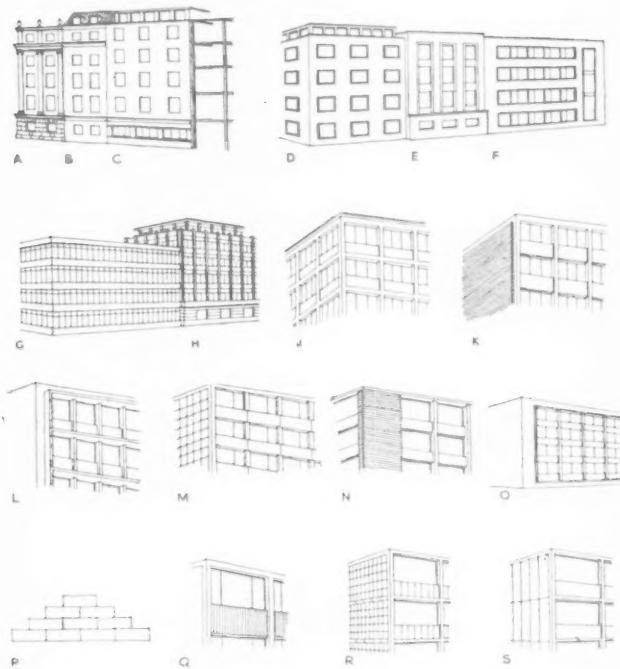


diagram 4

holds telephone equipment than office workers.

(F) joins the windows horizontally by continuing the lintel and the sill and using a different coloured brick between them—the very popular ham sandwich style. It gives some idea of the horizontal floor space, but otherwise expresses only the commonplace.

All are, I think, unimaginative and feeble. The linking together of the windows seems quite arbitrary and there is no conclusive indication of either the function or the construction of the building. Whether we expose the column or not, I feel we should be made aware of it. And I feel too that the wide window should not be sacrificed for aesthetic effect.

**Horizontal or Vertical Emphasis.** There were many buildings erected before the war that gave recognition to the column and the wide almost continuous window. The majority of them seemed of two distinct types of expression; one based on horizontal emphasis, the other on vertical emphasis.

In the horizontal type the windows pass in front of the column, or are clipped to its face, and the walls are treated as continuous panels supported by the beams. We thus have alternating horizontal ribbons of wall and window, as in (G). With the vertical type (H), the columns are exposed on three sides and run straight up for the full height of the building; the windows are combined with the panels under them to make a series of vertical elements between the columns.

The horizontal type tended to be used

for long low buildings like factory office blocks, the vertical for tall ones like skyscrapers, but there have been cases where the horizontal has been applied to tall buildings and vice versa.

It is quite easy to produce arguments that will justify either pattern as being honest expressions of an office block and of a framed structure. Neither is in itself satisfactory as it does not produce a composition which is resolved. Modern architecture is no different from Greek, Roman or Renaissance in its fundamental principles, and one of these principles is that a building needs to be a complete and harmonious whole. For it to be a complete whole its parts need to be balanced. By all means set up a strong horizontal direction, or a strong vertical one, if you like them; but don't do so without setting up movements in the opposite direction to prevent the eye running out of the picture.

**The Pattern Resolved.** The usual method of balancing the vertical or the horizontal is to juxtapose a strong element in the other direction—I have already referred to violent and abrupt changes of form. Their impact on each other is often vulgar, always disturbing. Why, anyway, set up a strong movement only to have to break it down again? After all, the pattern of the steel frame is a simple, balanced, rectangular grid. Why shouldn't its fenestration be so balanced?

A functional expression of the framed office is shown in my next sketch (J). It is what Mr. J. M. Richards has called a diagrammatic façade, a façade which may be a suitable background to an urban

scene. It is not, of course, a complete expression of structure—you will remember Mies van de Rohe in his Chicago flats expressed the diminishing thickness of the columns—and, all told, it is not subtle or interesting enough to sustain our interest.

(K) shows some refinements. First the grid of the façade is contrasted by a blank end wall—a point I have already made. Then the brick panel wall is carried on a nib hung from the floor beam (the boot lintel again). This makes the columns slightly more emphatic in their verticality, and sets up an even rhythm across the façade. The proportion of the panel counteracts the upward thrust of the columns, and there is a regular vertical rhythm between panel and window. The floor is expressed by the horizontal lines of the boot lintel or, of course, the ceiling seen through the windows.

To what extent you express the column, the floor or the panel doesn't, I suppose, matter a scrap, providing that the pattern is reasonably balanced. In (L) the floor slab is brought forward; it has the disadvantage that it provides long ledges for the dust to rest on, and calls for flashing. And in (M) the panel passes in front of the column, but its horizontality is counteracted by the joint lines on the column centres.

In the next sketch (N) the blank end wall is brought to the front façade, and a window placed on the end—as when a staircase is placed in the corner. This is a combination of the wall as a flat plane with the framed façade—a combination which needs very careful handling. For instance, the edge of the flat roof may be in proportion to the main façade, but when carried over the wall it takes on the appearance of a coping and may look too heavy.

This is counteracted when the wall is carried up and returned as a parapet with its own coping, as in (O). The parapet has its counterpart in a brick base, the complete building thus being framed. This is one of the most typical clichés of contemporary design—a geometric grid of window, column and panel, framed in a blank wall.

**The Skin Wall.** As has been said many times, the wall of a framed structure is only a skin to afford protection against weather. It carries no weight and an honest expression would make it clear that it does not do so. Because of their excellent weathering qualities, many frames are clad in brick or stone. While it is generally quite clear that these materials do not support the weight of the building, they are by tradition associated with this function. Apart from the density of the surface, it is the interlocking pattern of the joints that makes the wall look load-bearing.

As (P) tries to show, the staggered pends appear to carry the weight down to the ground; or conversely, there is a pyramidal building up of mass—a reflection of the pyramidal form of the large load-bearing building I illustrated a few moments ago. The purist designing a brick panel wall is likely therefore to use a bond which avoids a pyramidal pattern, such as a herringbone or brick on end, like (Q).

Although stone is bonded into a brick backing in many framed buildings, this is obviously less economical than applying it in slab form. With the stone reduced in thickness to a slab it may be larger in area, and this, together with the greater freedom in assembling the slabs, makes it quite easy to devise a skin-like pattern. Most designers use a plain rectangular pattern for panel walls, as shown in (R), as this is furthest removed from solid

block patterns, but in the large blank end façades all kinds of patterns have been devised. A favourite system is to break down the area into a series of panels reflecting the frame, and therefore the front facade.

The very fact that a building is veneered with slabs is a suggestion that it is framed, as few people would apply an expensive veneer to our load-bearing material, brick. The Ideal Boilers and Radiators building in Great Marlborough Street might be of solid construction, but its black marble facing indicates that it is not.

The use of a pre-cast concrete slab faced with a material that will weather, like broken brick, avoids building the panel wall in two operations; and as the concrete can be both reinforced and lifted by cranes, it is possible to have large units spanning between the structural members.

(S) shows vertical units on an end wall. An actual example is Anthony Chitty's flats for Holborn and St. Pancras. And F. R. S. Yorke in his schools has worked out a series of designs with the slabs laid horizontally.

As a general principle, one may say that, all things being equal, the more the surface looks like a skin or veneer, the more the design will express the idea of a framed building.

#### The Façade as a Sub-Frame

See Diagram 5)

The most complete expression of the skin takes place when the window plane is identified with the wall plane—when the two surfaces merge together as one overall pattern: for example, when the whole façade is treated as an overall lattice in which are inserted glass or wall panels as necessary (D). The all-glass façade is the extreme example, however, although our urban scenes are so chaotic that one might welcome the intrusion of some straightforward diagrammatic façades. Glass is too cold and unsympathetic a material to form the major background to our city centres. I know the arguments about the façade reflecting sky and trees, but that does not compensate one for the loss of natural surfaces like brick, stone, wood and marble.

The aesthetic significance of many all-glass façades rests not in the glass so much as in the fact that the wall and the window merge together to form one continuous plane, independent of the main structural frame. We can substitute opaque or textured materials for the glass panels under the windows proper, and have the maximum impression of the skin-like character of the wall. A wall or curtain of this nature may be mounted in front of the structural frame to become a sub-frame, and providing it reflects the structure behind, it is a quite legitimate system of design. Moreover, it is one that is capable of being much more elegant than a design which utilizes the main carcass.

Columns and beams in a steel or reinforced concrete frame are large members to reconcile with those of the windows, but the members of the sub-frame only have to support light materials and then only for the height of a single floor. Furthermore, the complete sub-frame can be manufactured off the site, and so the precision in its forms and the tolerances in assembly can be altogether finer.

The façade can become a light and elegant structure—but alas, how expensive it can be, and how few materials we have to make it from! There is a fortune waiting for someone who can invent a lightweight panel with interesting

colour, texture and weathering qualities at a reasonable price.

Most curtain walls remain on the drawing board, and then to a very small scale. Perhaps it is just as well, as few of them could be built. Could I suggest that no small-scale elevation is produced without being accompanied by detail designs of a typical bay, complete with specification?

#### Revealing Part of the Frame

A framed structure gives the maximum opportunity for letting the external space penetrate the building. A section of the envelope is omitted and the outside air flows into the building around the exposed frame. This happens most frequently at the ground floor level. This is left open, or only lightly enclosed by screens, so that the building appears to stand on columns.

All kinds of arguments have been put forward for standing a building on stilts—to get it clear of ground mists is one of the most ingenious—but most of the arguments are simply excuses for aesthetic effect. What a reflection on our civilization that we have to produce a practical reason for doing something which gives pleasure to look at! Fortunately, building science has given us a jargon incomprehensible to the layman which can be used as a cloak for aesthetic effects.

The only functional justifications I can think of are when the ground floor rooms are of a difficult or free shape, or when it is desirable to have spatial extension with the surroundings. If the ground floor is dissociated from the rest of the building there is far greater freedom in arranging the entrance halls and waiting-rooms, and far greater freedom in linking the floor with the surrounding floors.

Whether we have a practical justification or not for raising the building on columns, there is no doubt that the device can give extraordinary grace to the building.

ing through floating it in space, and no doubt that it alone can be made to express the structural system. Consider, for example (A). This is meant to represent the corridor side of a framed building; the wall with its tiny openings expresses a load-bearing function, but the open ground floor and exposed columns, by cutting the wall off from the foundations, makes it clear that the building must be a rigid frame.

The same effect has been obtained on the upper floors, where a long gallery or window cuts across the building, revealing the columns for a floor height. The gallery in a block of maisonettes is sometimes handled in this same way (B).

If the upper floors are designed as a balanced geometric pattern, conflicts may be set up with that of the ground floor. This is generally avoided by stressing the first floor slab; making it, in effect, the plinth of the building. This floor slab may be linked to the end walls, which again may be linked to the roof slab, so that the complete upper structure appears to be continued within a frame of flat slabs. I am not sufficiently an historian to know the antecedents of the *Parc des Expositions*; but I have always felt that Corbusier hit off in a flash of inspiration an aesthetic expression which might have taken years to develop.

(D) shows a common variation in which there is even greater dissociation between the superstructure and the grid. The façade is freed from the columns by being placed in front of them (its pattern nevertheless reflects the steel grid), and the load-bearing function of the columns is dramatized in design. Le Corbusier in his Marseilles scheme used a quite different system for the ground structure.

E), to bring you back to a previous example, lowers the building quite close to the ground, and although the spatial

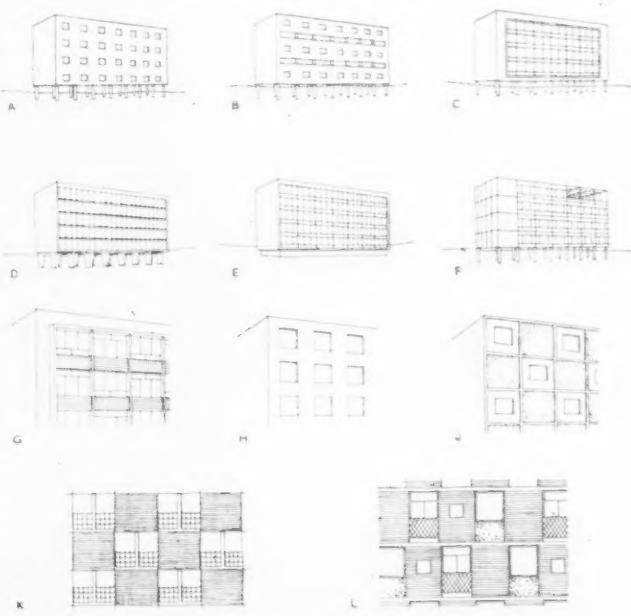


diagram 5

interpenetration is lost the façade is still cut off from the ground, and the walls tend to float; which gives far more significance to the pattern than when they just run straight into the ground.

(F) shows part of the top floor exposed, as in the case of a boardroom which opens on to a roof garden. The exposed structural frame gives a sense of enclosure to the roof by throwing an optical barrier round it, and the space is knitted into the regular rhythms of the façade.

#### Diagonal Façade Patterns

When the framed façade has a pattern based on a rectangular grid, there is generally an even horizontal progression across the façade between the columns, or mullions, and an even vertical progression between the windows and panels. If, within the confines of this frame, these two patterns cancel each other out, the total pattern is a balanced one. But in such a balanced pattern the eye also tends to move diagonally across the façade from corner to corner and, speaking very generally, the more the rhythms set up across the façade the more balanced will the pattern be.

You are all acquainted with the South American use of the brise-soleil, and the fascinating and lively patterns that have been made with concrete fins and ceramic tiles. We have no problems of keeping out a blinding sun from office buildings that cannot be adequately dealt with by some simple device like a venetian blind. There are, of course, some problems on dazzle, which I have not time to consider, but I would refer you to a most interesting article by Dex Harrison in the August, 1950, issue of the *Architectural Review*.

It would be absurd to try to reproduce the brise-soleil patterns in this country, but nevertheless the basic idea of setting up rhythms by contrasting adjacent units within the façade is being pursued, as in (G). With the office block, the functional requirement of the continuous window restricts alternating contrasts in a horizontal direction. But in a building type that does not need very wide windows and one where room types are repeated (say a block of flats), there are all kinds of possibilities. With a load-bearing wall the windows are placed above each other so that the loads are concentrated on to piers between them (H), but if the load is taken by a frame the windows can alternate and solid blocks can be placed over void (J).

Lutyens hit on this simple trick in his Westminster flats (I said Lutyens, not Powell and Moya!), where he alternates sash windows with rendered panels in a chessboard pattern.

Tecton in their Paddington scheme alternate windows framed with the columns (K), and in some flats under construction in St. Pancras I alternate bedroom and living room windows and set up a minor pattern by small windows set in the brick panels (L). This constitutes a combination of the framed expression with the hole in the wall expression.

By such contrasts of texture and pattern we move away from the purely functional diagrammatic façade to an aesthetic expression as pictorially interesting as those obtained by dressing up the frame in the trappings of revivalism and far more satisfying, because they have been evolved from the expression of construction and the expression of function.

I should have liked to talk on the expression of the environment in which the building stands; of how the expression of function and of construction needs to be used in the interests of the scene as a

whole, since architecture is but one aspect of town design.

If only I have made the point that we are now in a period in which the accepted conventions of expression need refining and harmonizing, that we need to give full significance to the most trivial architectural detail, then I shall go away satisfied.

Such a refining process can only take place on the drawing board—no one else can do it for one.

It can only take place with a divine patience; with a constant sharpening of one's formal experience; with a sense of the presence of the past; and with a conviction of the nobility of the individual.



Shops with flats over, Copenhagen. Hardwood slats to flat entrance surrounds.

photographs by Denis Vincent

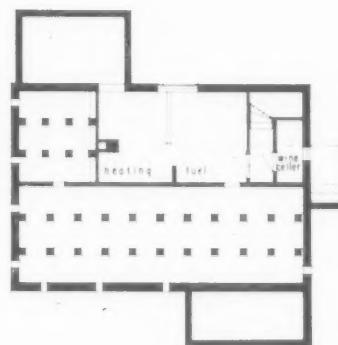
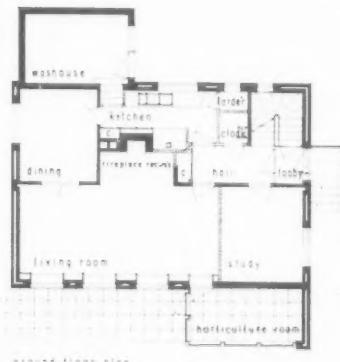
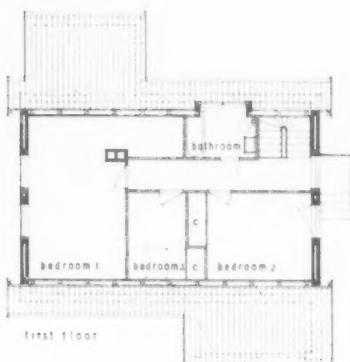
Flats, Copenhagen. Decorative panel to main entrance formed of light coloured headers.





View looking towards the living room and horticulture room.

## HOUSE AT HELLERUP COPENHAGEN



metres 0 1 2 3 4 5 6 7 8 9 10 11 12 13 metres

photographs  
drawings and notes  
by Denis Vincent,  
B.A., Student, R.I.B.A.

The site is reasonably flat, well planted with trees, none of which has had to be removed.

### Plan

Accommodation required by the client was as follows:—  
Ground Floor: 1. Study. 2. Cloaks. 3. Large living room, with space for high bookcases between the windows. 4. Small dining room. 5. A special feature to be made of the fireplace opening, in the living room. 6. A room leading off the living room where the client could continue his hobby of cultivating plants of various types, without having to leave the house. (Horticulture Room) 7. Kitchen and larder. 8. Wash-house, accessible from the kitchen. First Floor: 9. Principal bedroom. 10. No. 2 bedroom. 11. No. 3 bedroom. 12. Bathroom. Basement: 13. Central heating plant. 14. Fuel storage. 15. Wine cellar.

### Construction

External walls cavity construction, outer skin of local bricks, hand picked. Cavity filled with foamed concrete, for insulation purposes; Inner skin, insulation bricks. Floor: Precast concrete beams with beech strip, flooring as finish to floor. Floor to Bathroom: Terrazzo.

### Roof

Glass silk over roof joists for insulation. Pitched roof covered with Multicolour Roman type tiles.

### Finishes Externally

Light Buff hand-made bricks; Concrete plinth painted black; Horticulture room externally painted white; Boarding to main entrance door varnished; Obscure glass to side of frame; Steps to main entrance reinforced concrete; finish to treads, buff colour tiles; Balustrade wrought iron painted black;

architects: HANS HANNIBAL  
SØREN JACOBSEN



**Windows** : double glazing to windows in horticulture room, living room, study, dining room, and bedrooms. Single glazing to windows in bathroom, kitchen, wash-house, larder. All windows painted white, and are centre pivoted.

All plaster work is distempered white, or coloured. Chimney breast to living room is deep red. Fireplace opening is constructed of light buff tiles, semi-circular ceiling to fireplace recess finished with wood slats.

#### Internal Finishes

All woodwork is painted gloss white, except for doors, sills and floors which are left natural wood and wax polished.

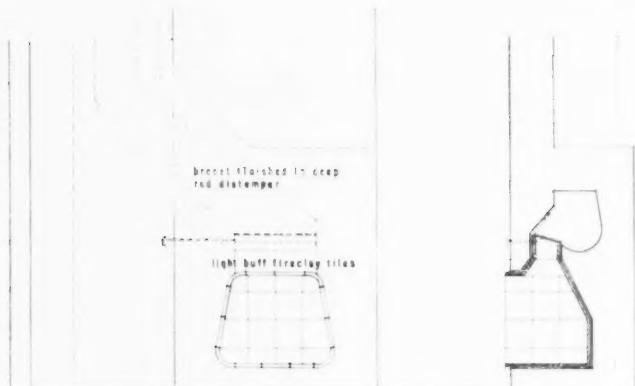
#### Services

Plumbing generally is within the walls. Hot water is by solid fuel boiler, which also supplies radiators.



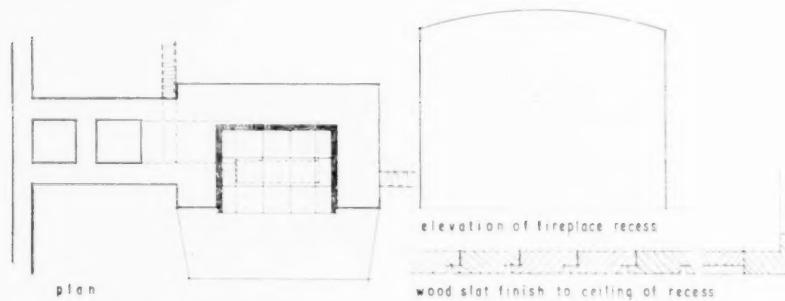
Horticulture room.

H O U S E  
A T  
H E L L E R U P



elevation to living room

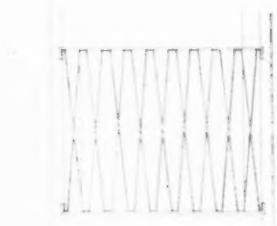
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F I R E P L A C E   D E T A I L S



View from main road looking towards main entrance.



elevation

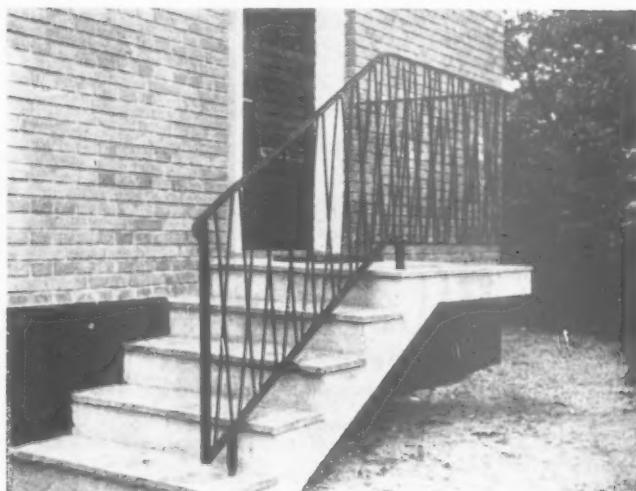


plan  
balustrade to window over  
main entrance

ARCHITECTS:  
HANNIBAL  
& JACOBSEN

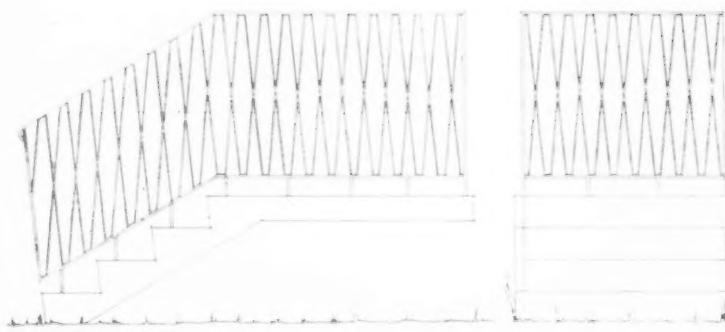


Main entrance gates.



main entrance gates

Steps to main entrance. The finish to treads is light buff tiles.



detail of balustrade to main entrance

## C O R R E S P O N D E N C E

## Oslo Broadcasting House

To the Editor of *A. & B. N.*

Sir,—In reply to John Vergette's letter in which he says by rating this building so highly, I do not do justice to such fine buildings as the Samfundshuset and the Commercial High School, might I ask has he seen the Samfundshuset recently? My brother, Bryan Westwood, wrote and illustrated an article on it in your issue of Dec. 6, 1947, as it greatly impressed him at that time. Alas, the fineness of a building is also partially judged by the choice and suitability of materials. Anyone seeing the Samfundshuset today for the first time would be forced to agree it was already shabby and looking very sorry for itself. The anodized aluminium on the lower part of the building, for example, has been scratched and disfigured because it has been used in a position for which it is unsuited.

Far too little thought is given to the choice of materials to-day, with the result that many of our so called modern buildings last just long enough to be photographed and then become 'uninsightly' through deterioration.

In case I did not make it clear in the article, it was not only the Oslo Broadcasting House, but also the design of layout around it that made it a fine and inspiring scheme.

I regret I did not see the Munthe-Kaas Commercial High School.

I am, etc.,  
NORMAN WESTWOOD.

## N.U.S. Report

To the Editor of *A. & B. N.*

Sir,—Some months ago, when the report of the National Union of Students' visit to Russia was published, you, Mr. Editor, gave what I am sure many of your readers considered to be a very fair criticism of it.

You were at once accused of "lack of contact" with what was going on in the spheres of architecture and building in the U.S.S.R. I thereupon suggested that a party of 50 architects (since "strengthened" by the inclusion of some builders and quantity surveyors) visit Russia, and the same number of Russian architects visit this country, and that the two reports be published together in both countries.

I also suggested that the group best placed in this country to "set the ball rolling" was the Association of Building Technicians, because of its long and constant contacts with the U.S.S.R.

The A.B.T. has not "itself" responded to this suggestion, but Mr. F. W. B. Charles, in your issue of the 17th, proposes that the R.I.B.A. and "not" the A.B.T. should take this matter up.

Whether his letter was "prompted" by the A.B.T. or not, I cannot say. I

repeat, however, that the A.B.T. is the body best placed to do this, and if this is questioned, I am prepared to prove it by facts.

Now is its chance to enlighten us as to what is going on "behind the iron curtain" and at the same time inform the Russians of what we are doing over here. Such an interchange of visiting parties would tend to create a better understanding between the two countries and obviate the drift towards war.

Other professions appear to be taking somewhat similar steps, so why not the architects?

I am, etc.,  
SIDNEY LOWETH.

## Drawing Office Equipment

To the Editor of *A. & B. N.*

Sir,—I was very interested to read in the course of your review of Drawing Office Equipment your comments on the lack of attention to the equipping of architects' offices. This I fully endorse.

The blunt truth is that the firms who design and manufacture drawing equipment are interested solely in engineering firms, *not* architects.

I well remember some years ago making some suggestions to one of the best known of these firms for an improved drawing desk and being well snubbed for my pains. The fitting illustrated is typical. It provides practically no storage accommodation for either drawings, files, books or instruments. It shows a fixed board and a weighted straight edge, both anathema to the majority of architects, in addition to its being the ugliest contraption of the type that I have ever seen. And I suppose the price is sufficient to bankrupt the average private architect.

The same could be said of drawing instruments—but I could go on in this strain for quite a while. I have, however, to thank you, Mr. Editor, for enabling me to rid myself of several years of annoyance.

I am, etc.,  
"PENCILPOINT."

## Law Reports

In the King's Bench Division on Tuesday Mr. Justice Parker dismissed a claim for damages, alleging breach of duty, against Messrs. H. A. Whitburn & Sons, chartered architects, of The Broadway, Woking.

The plaintiff, Mr. Walter James Tew, chemical works foreman, employed Messrs. Whitburn to inspect and report on a bungalow, 67, Woodlands Avenue, West Byfleet, Surrey. After he purchased the premises water was discovered and he complained that defendants had failed to discover this during their inspection.

As a result, he said, he had suffered

loss and had had to have repairs done. Messrs. Whitburn contended that the inspection had been properly carried out, and denied breach of duty.

Evidence was given on behalf of Mr. Tew that discolouration of the wood and smell, and a "ribbiness" of the skirting boards, ought to have put a surveyor on enquiry for rot.

In his judgment, Mr. Justice Parker said that the evidence on which to hold a professional man guilty of negligence was very slender. He was satisfied that Mr. A. S. Whitburn, who carried out the inspection, did so with considerable care, and there was nothing in particular to put him on enquiry. There was nothing to justify the Court saying that Mr. Whitburn had fallen short of the high standard required of a competent surveyor.

Messrs. Whitburn did not ask for costs.

The King's Bench Divisional Court on Wednesday quashed a decision of the Disciplinary Committee of the Architects Registration Council to remove from their register the name of Mr. Edward Allen Burne, architect, of Ingledene, Hunsonby, Penrith, Cumberland, and to disqualify him from registration for three years from June, 1951.

Mr. Burne was alleged to have received a secret payment of £45 from a builder for work entrusted to him to be done by a third person. He denied this allegation and complained that the findings of fact by the Committee, after an inquiry into the matter, were not in accordance with the evidence, and that they were based on unsworn contradictory statements by the builder in Mr. Burne's absence.

Giving judgment, the Lord Chief Justice (Lord Goddard) said that while the Courts did not regard domestic tribunals as being bound by the strict rules of evidence prevailing in the Courts, there must be some evidence to justify the findings of a tribunal before they found a person guilty of unprofessional conduct.

Apparently the only witness apart from Mr. Burne before the Committee was a solicitor who had interviewed the builder, and to whom the builder made a statement regarding the alleged payment to Mr. Burne. Meanwhile, the builder had withdrawn the statement by letter, but it was suggested that that might have been on the persuasion of Mr. Burne.

The builder did not give evidence, and his lordship agreed the Committee were in a difficulty because they had no power to subpoena any witness. There was no evidence before the Committee that Mr. Burne received a penny in the way alleged, and the findings of the Committee could not stand. The appeal of Mr. Burne would be allowed, with costs, and the decision of the Committee quashed.

Mr. Justice Byrne and Mr. Justice Parker agreed.

# News of the BUILDING INDUSTRY

AT THE L.M.B.A. ANNUAL GENERAL MEETING on January 22, Mr. David Woodbine Parish was elected President in succession to Mr. Dudley F. Cox. Mr. A. W. Yeomans was elected vice-president. Mr. Gerald Hill was re-elected as one of the two junior vice-presidents, the other being Mr. R. S. Williams. Mr. Nigel Hannen was re-elected as honorary treasurer.

The following were elected as members of the Council: Mr. P. H. Bates, of Thomas Bates & Son, Ltd.; Lt.-Col. W. W. Dove, of Dove Bros., Ltd.; Mr. N. S. Farrow, of Howard Farrow, Ltd.; Mr. G. Harris, of Walker (Tooting), Ltd.; Mr. L. J. Holloway, of Holloway Bros., London, Ltd.; Mr. W. K. Laing, of John Laing & Son, Ltd.; Mr. R. S. Lovatt, of Wilson Lovatt & Sons, Ltd.; Mr. B. L. Morgan, of W. Loweth & Son, Ltd.; Mr. P. F. Parker, of Patman and Fotheringham, Ltd.; Mr. B. T. Rice-Pyle, of Walter Lawrence & Son, Ltd.; Mr. D. C. C. Roberts, of C. P. Roberts & Co., Ltd., and Mr. C. K. Tavener, of C. Tavener & Son.

THE COUNCIL FOR CODES OF PRACTICE FOR BUILDINGS has now issued in final form Code 403.101, "Small Boiler Systems Using Solid Fuel." It describes and deals with the installation of hot-water supply systems, and combined heating and hot-water supply systems using solid fuel. It applies to independent boilers having from 2 to 5 sq ft of heating surface or back boilers having 1 to 5 sq ft of heating surface, fitted in open fires, cooking ranges or stoves.

The Code gives the basic design requirements for installations in small dwelling houses of a floor area of up to about 1,500 sq ft. The recommendations cover temperatures and draw-off quantities in relation to capacities and fuel consumption. Advice is also given on the sizes of storage vessels, on pipe connections to them, and on the thermal insulation of pipes, cisterns and storage vessels to conserve heat and to give protection from frost. The piping installation is dealt with very fully and there is information on valves, radiators, towel rails, mixing valves and water blenders.

Also issued in final form is Code 121.202 (1951), "Masonry-rubble Walls." This Code deals with the materials for and the design and construction of rubble-masonry walls of both solid and hollow construction. It has been recognized that rubble masonry is primarily a local craft peculiar to certain areas where stone is readily worked or available and that in some parts local practice differs from that enunciated in the Code. Various aspects of the construction of this type of walling have been considered and general recommendations covering all types are set out. Descriptive details are illustrated by a number of photographs.

Recommendations are made on the selection of stone and mortar, materials for damp-proof courses, wall ties and flashings, and a list of definitions is given.

MR. J. WOFFINDIN, M.I.N.S.T.B.E., Chairman of the Yorkshire Regional Council of the Federation of Master Builders, speaking at the Chesterfield Branch Annual Dinner on January 16, 1952, said: "Already there are signs throughout the country that the permissive powers given by the Minister of

Housing to local authorities to allow up to 50 per cent of their housing allocations to be used for the building of houses for owner-occupation are not being taken up. This is a great pity as each house built for owner-occupation saves the country at least £26 10s a year in housing subsidies, and in each local authority's area there are many people who, if given a free choice, would build a house of their own rather than live in a state-subsidized council dwelling."

THE RT. HON. JAMES STUART, P.C., M.V.O., M.C., M.P., Secretary of State for Scotland, opened Chance Brothers' Vello Tubing Plant at Firhill, Glasgow, on January 16, 1952.

The new plant is a quarter of a million pound dollar-earning and dollar-saving project which will make Britain self supporting in glass tubes for fluorescent lighting. Up to now, not enough tubes for this purpose have been produced here and supplies have had to be imported, mainly from America. The new plant is fully automatic.

Advantages claimed for the Vello process over other methods of drawing tubes of glass are the greater speed of production and the closer tolerances that can be achieved. The plant is capable of producing one tube every second, equivalent to about 3½ miles of tubing per hour.

## TIMBER

Full details of the new softwood trading scheme are now known, and they do not differ from the outline previously given in this column. At the moment the effects will be felt mainly by the importer, but the contractor can certainly expect changes, mainly to his advantage.

Before dealing with the scheme details as they affect the contractor, it would be advisable to make clear the sections of the softwood timber trade not covered by the plan. As an example, cedar shingles, which seem to be gaining popularity with more local authorities these days, can still be imported under open general licence. Presumably the Treasury rightly believe there is small danger of foreign currency being squandered on these shingles. Scaffold and ladder poles are subject to separate licensing under Timber Control, while softwoods from the Commonwealth (excluding Canada) can be imported freely, but can be used only against licence in this country.

The Minister of Materials has made it quite clear to the timber trade that no efforts on their part will change the views of the Government on softwood licensing for consumers at the present time, and evasion of the orders will be dealt with severely. In the past two or three months there have been timber merchants who have not shown customary regard for the regulations governing licensing of softwood, in the mistaken belief that it would soon be removed, and also to save themselves some financial embarrassment with growing stocks at high cost. Those consumers who have gained from generous treatment of licence quantities by merchants can expect a different outlook for the future.

Any doubts about coming shortages of stocks or lack of variety, two causes likely to send builders and contractors rushing into the market to buy softwood, can be

A NEW METHOD of applying laminated plastic wall paneling has been used in the construction of a B.B.C. staff canteen at Bush House, London, W.C.2.

The paneling has been carried out in Formica veneers, bonded direct to cement-rendered walls. No cover fillets, supporting grounds or backing boards have been used. Central supporting columns, 8 ft high and 2 ft in diameter, have also been veneered with Formica.

By applying directly on to the wall surface, the Formica panels can be formed *in situ* to the required curves, whereas when a plywood backing is used both the backing board and veneer have to be pre-formed at considerable cost in special veneer presses, before being taken to the site.

Joints between the panels have been "veed" to relieve the large areas of paneling. The fabricators were Permaparts, Ltd., London, S.W.15.

DUNDEE TOWN COUNCIL has approved the purchase of two million Belgian wire cut clay bricks at a cost of some £270,000. The bricks will be enough to permit the completion of one hundred houses. The order has been placed after many months of difficulty over the supply of bricks to keep the city schemes in progress.

## REVIEW

dismissed. This suggestion, made previously in this column, now receives official backing, for it is the declared intention of the Timber Control to issue import licences to cover the present rate of consumption and maintain an adequate stock of softwood in the country; the commercially desirable stock is placed at 400,000 standards by the end of the year, and this quantity will assuredly be sufficient to provide the builders with their requirements without wearisome searching of merchants' yards over a wide area.

Buying of Timber Control timber, which means mainly Canadian Douglas fir and hemlock, with Yugoslavian whitewood, continues to be through National Softwood Brokers, Ltd., and it is outside the import quota set for the softwood importers.

The building trade should gain considerably from the decision to make licences cover a six-monthly period instead of three through the issuing departments.

Prices should definitely turn in the favour of the builder as the year grows older. When the new scheme was placed before the timber trade at a London meeting by Sir Archibald Harris (Chairman of the Softwood Decontrol Committee), he had some advice to give the importers on the need for careful buying. He said that the producing countries would be able to offer about a million standards of softwood to Britain this year, but their needs would certainly not exceed 600,000 standards. "Considering that a disparity of even 10 per cent between supply and demand has normally been found to cause a considerable swing in price levels, it is too optimistic to assume that a disparity such as I have indicated can hardly fail to lead to a considerable fall in export prices if importers here realize the strength of their position, and have the courage to adopt the right strategy."

# GOOD, BAD OR INDIFFERENT?

No. 63.—By A. FOREMAN

## Matchboarded Doors

MY attention has been drawn by a correspondent to a recently published British Standard with the title "Matchboarded Doors." It is B.S.459 Part 4 and covers ledged and braced and also framed and braced doors. My correspondent expresses the opinion that the construction shown is very poor, particularly in regard to the braces in the framed type. I think the criticism arises from a lack of appreciation of the advance in knowledge of the construction of this type of door; an advance which does not yet seem to have reached the textbooks as, presumably, these are mostly written by the older teachers in our technical schools who are not so closely in touch with our industrial developments and output.

Let me say, as a commencement, that I do not like the title of the B.S. although it may be strictly correct as an all-embracing description of the two types of door since both are faced with matched boarding. I hope that this title will not stop the use of "ledged and braced" and "framed and braced"; I am, however, rather glad to see "framed and braced" used instead of "framed, ledged and braced," which is long and clumsy.

I am pleased to see the B.S. is not too mean in regard to timber sizes which have, on many jobs, been reduced too much; on the other hand, in many pre-war jobs we were too wasteful of timber. The face boarding is to be a minimum finished thickness of  $\frac{3}{4}$ in and the maximum width of boards is not to exceed 4 $\frac{1}{2}$ in, which in my opinion is fully wide for a satisfactory job. Many doors to-day have  $\frac{3}{4}$ in boarding but this I think is too thin. The stiles and top rails are 3 $\frac{1}{2}$ in  $\frac{1}{2}$ in and the middle and bottom rails 5 $\frac{1}{2}$ in  $\times$  1 $\frac{1}{2}$ in, which I think to be quite adequate for framed doors. The material for the braces has to be 3 $\frac{1}{2}$ in (ex 4in) by 1 $\frac{1}{2}$ in for framed doors and  $\frac{3}{4}$ in for ledged doors which again I think is enough for doors up to 6ft 9in high. Thicknesses less than these are undesirable.

The criticism I received is mainly directed at the design and construction of the braces when used in framed doors, as they are only cut between the stiles and rails instead of being cut into or housed into the rails without touching the stiles. While it is true that in the construction suggested by the critic the braces are more definitely positioned, there is little risk of them pushing against the stiles if the B.S. construction is adopted. The housing of braces and their use in a somewhat more vertical position as is more common in the North may, in theory, make a better job but in practice I have seen very many doors made in the B.S. way which have been just as satisfactory. The fact is that so many nails are used in making the B.S. type that failure is almost impossible until the nails corrode away, which will be a very long time if the doors are reasonably maintained.

I think we might get less trouble with framed doors if we made the joints of the framing with synthetic resin glue, as this is more resistant to moisture, since most of these doors are used with one face exposed to the weather and consequently

there is a good deal of movement due to variations in humidity in the timber however well they are painted.

I have never been a great believer in framed and braced doors as they seem to use so much timber and use it in such a way that it can move so obviously in changing conditions. It seems to be a tradition to use this type of door in certain positions in buildings, but I believe normal external-type panelled doors would often be equally or more satisfactory.

In the construction of ledged and braced doors the B.S. calls for the ledges and braces to be bevelled on both edges which is refinement, presumably adopted in the interest of easier cleaning. It is interesting to note that plenty of nails are called for, two at each ledge and one at each brace, and in addition they are to be 2in long and have to be clinched; long nails for this clinching are a nuisance on the bench unless you know how to deal with them but there is no difficulty if the nailing is done on a metal surface.

I am sorry that the painting of tongue and groove joints, the backs of the rails and the backs and ends of the braces is only to be carried out "when ordered by the purchaser." I think it ought to be compulsory except when ordered otherwise by the purchaser. I am sorry also that knotting and priming is to be carried out only when ordered; again, I think doors which are ultimately to be painted should never be allowed to leave the joiner's shop without being primed. I like the priming clauses in the B.S. as when carried out they should give proper

protection and give the painters a chance to do a reasonable job at a later stage. I am afraid we on the job suffer a lot from poor priming.

There are a number of small but important points which are well covered in the B.S., such as the keeping back of ledge ends to allow for "shooting," the lifting of the bottom rail for the same purpose and the tonguing of the top edge of the boarding into the top rail of framed doors.

A point in connection with these types of door is the use of the right type of hardware, and, in particular, hinges. I am often surprised to see attempts made to hang ledged and braced doors on hinges other than tee types. It is possible to hang framed and braced doors with butts as basically they have the same stile construction as panelled doors and there is plenty of wood available in which to screw and with the grain in the right direction. When tee hinges are used, especially on external doors, they should have a galvanized or similar protective treatment; black japanned finishes are, in my experience, quite useless. It is as well to remember that all types of matchboarded doors are relatively heavy and need strong hinges of whatever type is decided on. The length of tee hinges should be about half to three-quarters of the door width and should be at least medium quality as the light ones are very poor things. Wide doors of the framed type, such as are sometimes used for garages, should be hung with hook and band hinges as they are very heavy.

## M.O.W. LECTURES

### FEBRUARY 4

BRIGHTON at 7.15 p.m. "SITE INVESTIGATION," by N. W. B. Clarke, M.Eng., M.I.C.E., M.I.Struct.E. of the Building Research Station, Department of Scientific and Industrial Research at the Technical College.

### FEBRUARY 5

LEWISHAM at 7.15 p.m. "GOOD PRACTICE IN PLUMBING," by F. N. Shimmin, B.Sc. (Eng.), A.M.I.C.E., F.I.San.E., F.R.San.I., Senior Sanitary Engineer, M.O.W., at the South East London Technical College, Lewisham Way.

LLANGEFNI at 7 p.m. "INTRODUCTION TO PROGRAMMING AND PROGRESSING FOR BUILDERS," by A. E. Chittenden, D.F.C., B.Sc., A.M.I.C.E., Ministry of Works, at the Town Hall. WAKEFIELD at 7.15 p.m. "SEASONING AND PRESERVATION OF TIMBER," by J. Jowett, Regional Officer, Timber Development Association, at the Technical College, Bell Street.

### FEBRUARY 6

BURNLEY at 7.15 p.m. "MACHINES FOR THE MODERN BUILDER: SOME RECENT DEVELOPMENTS IN BUILDING PLANT," by A. MacNiven-Brown, A.M.I.Mech.E., A.F.Aero.S., F.R.S.A., of the Building Research Station, Department of Scientific and Industrial Research in the Lecture Hall, Municipal College.

CAERNARVON at 7 p.m. "INTRODUCTION TO PROGRAMMING AND PROGRESSING FOR BUILDERS," by

A. E. Chittenden, D.F.C., B.Sc., A.M.I.C.E., Ministry of Works, at the Library.

LEICESTER at 7.15 p.m. "GOOD PRACTICE IN DOMESTIC DRAINAGE," by F. J. Crabb, B.Eng., M.I.C.E., F.R.San.I., of the Building Research Station, Department of Scientific and Industrial Research at the College of Arts, The Newarke.

SHEFFIELD at 7.15 p.m. "LIGHT-WEIGHT CONCRETES," by T. Whittaker, M.Sc., A.M.I.C.E., A.M.I.Mun.E., of the Building Research Station, Department of Scientific and Industrial Research, at the College of Technology, Salmon Pastures, Warren Street.

### FEBRUARY 7

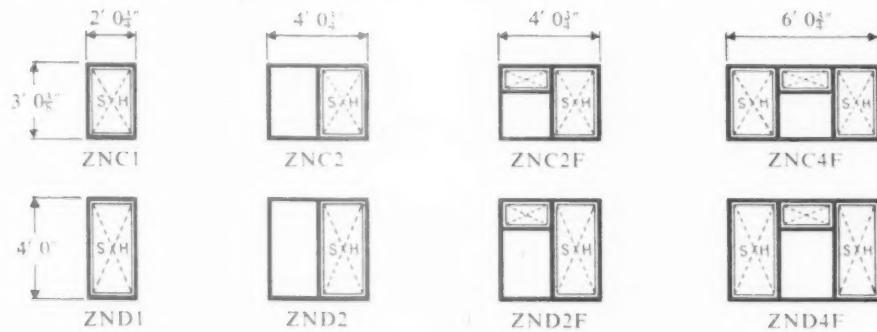
BLACKPOOL at 7.15 p.m. "MODERN DEVELOPMENTS IN THE USE OF TIMBER," by R. M. Beswick, of the Timber Development Association, in the Lecture Hall, Technical College, Palatine Road.

### FEBRUARY 11

IPSWICH at 8 p.m. "BRITISH STANDARDS AND CODES OF PRACTICE FOR BUILDING," by C. Roland Woods, M.B.E., LL.D., Director, Council for Codes of Practice for Buildings, at the Crown and Anchor Hotel.

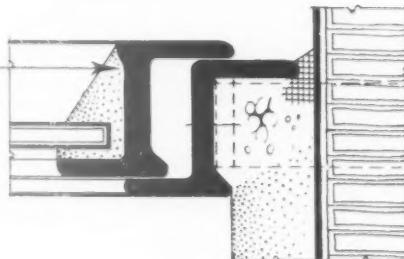
TAUNTON at 7 p.m. "NEW TIMBERS," by R. P. Woods, B.A. (Cantab.), Chief Scientific Officer, Timber Development Association, at the Municipal Hall, Taunton.

# HOPE'S "Z" STANDARD WINDOWS



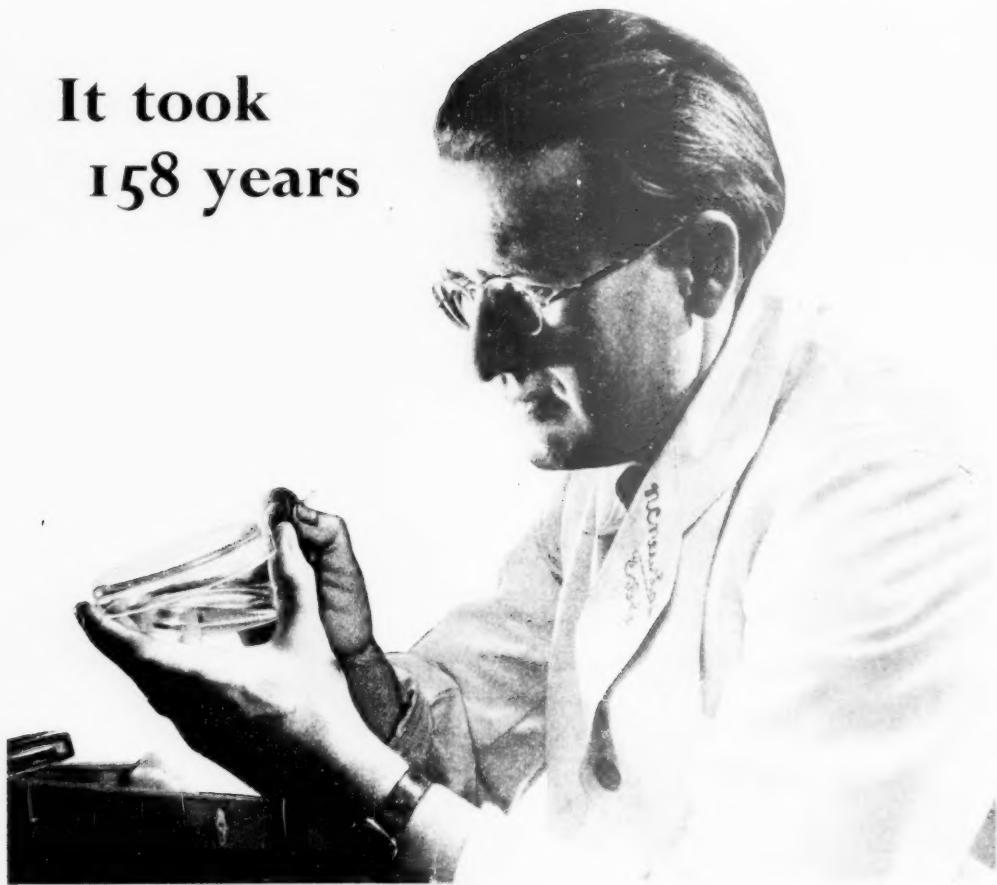
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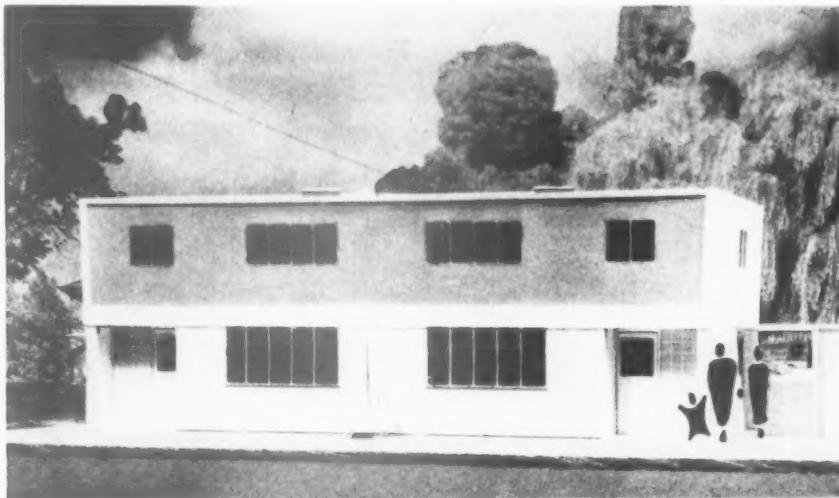


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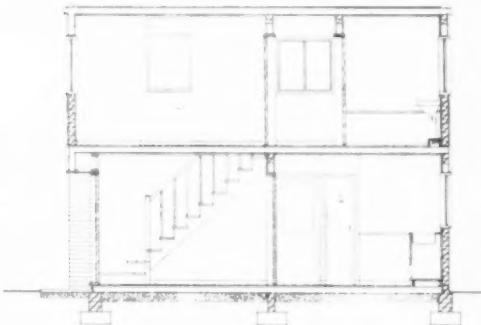


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Contractors : The Bunting Construction Co. Ltd.

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SECTION



GROUND FLOOR

FIRST FLOOR

## CONSTRUCTION DETAIL

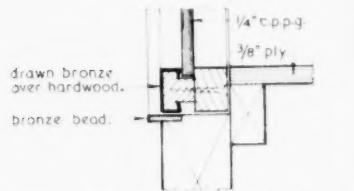
### THE JAEGER SHOP East Street, Brighton

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DETAIL OF CASEMENT FRAME

Scale  
Feet 1 0 1 2 3  
Inches

plaster board to  
ceiling height.

cover bead.  
plywood.

opening casement.

3/8" ply.  
fluo' tubes.

opening casement.

3/8" ply back.  
offset to  
existing broken  
wall line.

glass tile.

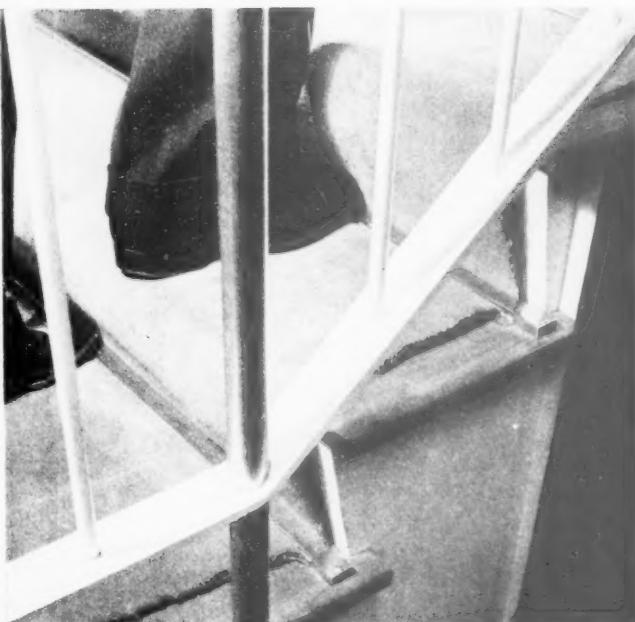
cement  
rendering  
on mesh.

tiled floor  
& riser.

fluo.  
screeded  
concrete.

SECTION THRO' DISPLAY CASE

Scale  
Inches 12 0 1 2 3  
Feet



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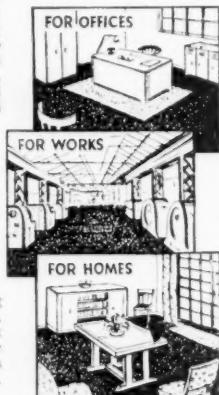
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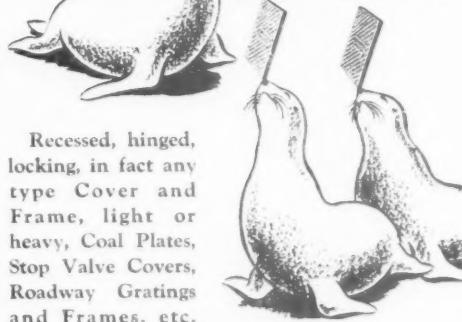
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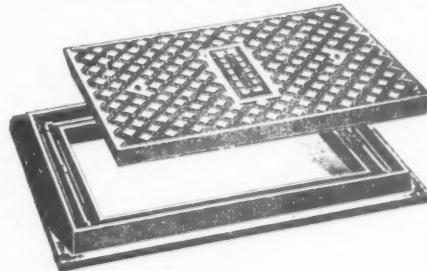
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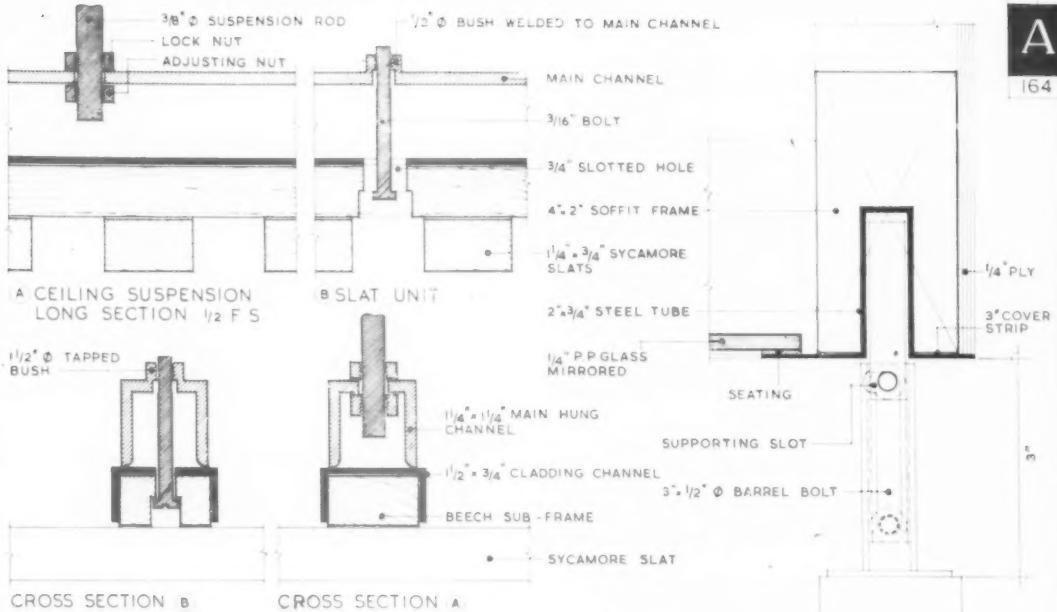
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DISPLAY PLAQUES

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3"

6'7"

8'7"

15'4"

2"

EXISTING COLUMN

GLASS SHOP FRONT

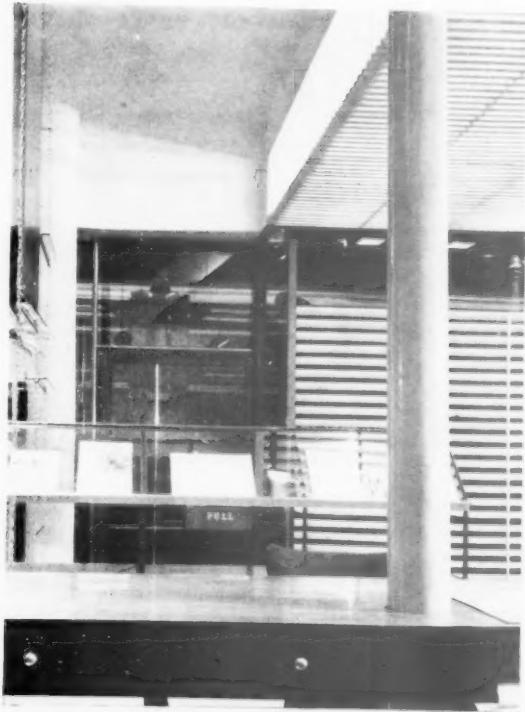
1/2 F.S. SECTION THROUGH LOUVRES

Supplement to *THE ARCHITECT and Building News*, January 31, 1952



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# CONTRACT NEWS

## OPEN

## BUILDING

**ALDERSHOT B.C.** (a) Block of 3 old persons' dwellings, Old Folks' site, Pool Road. (b) Borough Engineer, Municipal Buildings, Grosvenor Road. (c) Ign. (e) Feb. 11.

**ALTON R.C.** (a) 4 aged persons' bungalows and 14 houses, Kingsley site B. (b) Council's Engineer, Council Offices, Barton End. (c) 3gns. (e) March 5.

**ANGLESEY C.C.** (a) Fire station at Almwich. (b) County Architect, Shire Hall, Llangefni. (c) 2gns. (d) Feb. 13. (e) March 5.

**BARNSTAPLE B.C.** (a) 4 blocks of two-storey flats, 1 block of three-storey flats and 3 pairs of houses, Forches Estate. (b) Borough Surveyor, The Castle. (c) 2gns. (e) Feb. 15.

**BRIXTON U.C.** (a) (1) 9 pairs of houses and (2) 1, 2 or 3 pairs of houses, Penn Valley Estate. (b) Messrs. W. G. Couldry and Son, 14, Palace Avenue, Paignton. (c) 2gns. (e) Feb. 18.

**BUDE-STRATTON U.C.** (a) 24 houses and bungalows, Berries Avenue Estate. (b) Council's Surveyor, The Castle, Bude. (c) 2gns. (e) Feb. 22.

**CARMARTHENSHIRE C.C.** (a) First instalment of technical college at Ammanford. (b) County Architect, County Hall, Carmarthen. (c) 5gns. (d) Feb. 9. (e) March 11.

**CHELMSFORD B.C.** (a) 56 houses, Chignall Estate. (b) Borough Engineer, Municipal Offices. (c) 2gns. (e) Feb. 18.

**CROYDON B.C.** (a) Classroom block at St. Mark's School, Albert Road. (b) Chief Education Officer, Katherine Street. (c) 1. (e) Feb. 22.

**DEVON C.C.** (a) Primary schools at (1) Forches, Barnstaple, (2) Goosewell, Plymstock and (3) Shiphay, Torquay. (b) County Architect, 97, Heavitree Road, Exeter. (c) 3gns each contract. (d) Feb. 9.

**DRAYTON R.C.** (a) (1) 4 houses, road and sewers at Calverhall; (2) 10 houses, road and sewers at Hodnet and (3) 16 houses roads and sewers at Stoke-on-Trent. (b) Messrs. Hind and Brown: District Bank Chambers, 2, Market Street, Hanley, Stoke-on-Trent. (c) 2gns. (e) Feb. 8.

**DROYLESDEN U.C.** (a) Public conveniences and incidental works at "Five-ways". (b) Engineer and Surveyor, Council Offices. (c) Feb. 23. See page 21.

**GOSPORT B.C.** (a) Erection of Civil Defence headquarters at Westfield Road Depot. (b) Borough Engineer, Town Hall. (c) Ign. (e) Feb. 18.

**GUILDFORD B.C.** (a) 116 houses, Bushey Hill, Merrow. (b) Borough Engineer, Municipal Offices, High Street. (c) 2gns.

address it is the same as the locality given in the heading. (c) deposit, (d) last date for application, (e) last date and time for submission of tenders. Full details of contracts marked ★ are given in the advertisement section.

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**HAMPSHIRE C.C.** (a) Conversion of Rolleston Golf Club House to provide four classrooms, cloakroom and block of offices at Fawley, Blackfield. (b) County Architect, The Castle. (c) 2gns. (e) Feb. 14.

**HAMPSHIRE C.C.** (a) School for arts and crafts at Winchester. (b) County Architect, The Castle, Winchester. (c) 3gns. (d) Feb. 29. (e) March 28.

**HARPENDEN U.C.** (a) 22 houses, Battford (North) Estate. (b) Council's Clerk, Harpenden Hall. (c) 1gn. (e) March 3.

**HORNCHURCH U.C.** (a) 56 maisonettes in 14 blocks. (b) Engineer and Surveyor, Council Offices, Billet Lane. (c) 2gns. (e) Feb. 18.

**IPSWICH B.C.** (a) Block of 8 and a block of 4 flats at Cemetery Road area. (b) Borough Engineer, 19, Tower Street. (c) 3gns. (d) Feb. 5. (e) Feb. 28.

**KETTERING B.C.** (a) 42 houses as (Group 1) 8 (Group 2) 8 (Group 3) 10 and (Group 4) 16, on the Grange Estate. (b) Borough Engineer, 3, Gold Street. (c) 2gns. (e) Feb. 11.

**LIVERPOOL REGIONAL HOSPITAL BOARD.** (a) Erection of E.N.T. department at Clatterbridge General Hospital. (b) Regional Architect, 88, Church Street. (c) 2gns. (e) Feb. 20.

**LIVERPOOL REGIONAL HOSPITAL BOARD.** (a) Additional nurses' accommodation at Walton Hospital. (b) Regional Architect, 88, Church Street. (c) 2gns. (e) Feb. 20.

**LONDON—HORNSEY B.C.** (a) 22 flats as (Scheme No. 42) 2 blocks of 8 at Lorne Road and Marquis Road, Stroud Green, N.4 and (Scheme No. 44) 1 block of 6 at Wightman Road, N.8. (b) Borough Engineer, Town Hall, N.8. (d) Feb. 11. (e) March 10.

**LONDON—WANDSWORTH B.C.** (a) (1st phase) 68 flats and day nursery and (2nd phase) further 115 dwellings for the Clapham Crescent scheme. (b) Town Clerk, Municipal Buildings, S.W.18, with details of plant, experience, technical and supervisory staff available and names of two technical and two financial referees. (d) Feb. 13.

**MACCLESFIELD B.C.** (a) 5 bungalows, Moss Lane Estate. (b) Borough Architect, 3, Jordangate. (c) 2gns. (e) Feb. 18. See page 21.

**MALMESBURY R.C.** (a) 4 bungalows at Sherston and 2 at Lea. (b) Messrs. Edwards and Webster, 32, Market Place, Chippenham. (c) 2gns. each site. (e) Feb. 16.

**MIDDLESBROUGH B.C.** (a) 22, 14, 32 and 28 houses at Berwick Hills (3rd development). (b) Borough Engineer, Municipal Buildings. (c) 2gns. (e) Feb. 11.

**N. IRELAND—NEWRY R.C.s.** 1 and 2. (a) 16 houses at Carrickcruppin, Camlough including necessary works. (b) Messrs. McCarthy and Lilburn, Scottish Provident Buildings, Belfast. (c) 3gns. (e) Feb. 13.

**N. IRELAND—NORTHERN IRELAND HOUSING TRUST.** (a) 8 shops, 26 flats, 20 maisonettes and 6 old peoples' bungalows on the Tonagh Estate, Lisburn. (b) Northern Ireland Housing Trust, 12, Hope Street, Belfast. (c) £3. (e) Feb. 20.

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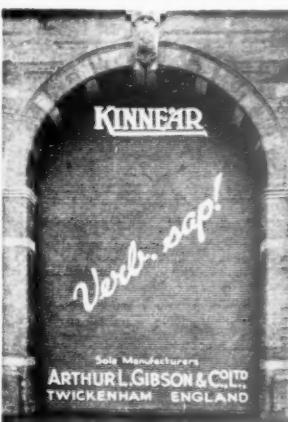
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**PRESTON B.C.** (a) R.C. primary school with caretaker's house at Gamull Lane, Fulwood. (b) Wilfrid C. Mangan, 2, Ribblesdale Place. (d) Feb. 7.

**READING B.C.** (a) Extension for medical inspection unit at The Avenue School, Northumberland Avenue. (b) Borough Architect, Town Hall. (e) Feb. 11.

**SAFFRON WALDEN R.C.** (a) 6 houses at Arkesden, 6 at Chrishall, 12 at Little Chesterford and 12 at Stansted. (b) Council's Clerk, Council Offices, Debden Road. (e) Feb. 9.

**SHEFFIELD C.C.** (a) Boys' secondary school at Hurfield. (b) City Architect, Town Hall. (c) £5. (e) Feb. 15.

**SLOUGH B.C.** (a) 23 blocks of flats, Priory Estate, Burnham. (b) Borough Engineer, Town Hall. (c) 2gns. (e) Feb. 18.

**SOUTH SHIELDS B.C.** (a) 40 houses in 7 blocks on Section IV, Simonside Development Area. (b) Borough Engineer, Town Hall. (c) 2gns. (e) Feb. 12.

**SOUTHEND-ON-SEA B.C.** (a) 7 pairs of houses, 3 blocks of 3 houses and 4 blocks of 4 houses, site No. 24. (b) Borough Architect, Municipal Buildings. (c) £2. (e) Feb. 12.

**THURROCK U.C.** (a) 32 houses, Manor Close, Grange Road, Avelay. (b) Engineer and Surveyor, "Hillcrest," Palmers Avenue, Grays. (c) 2gns. (e) Feb. 12.

**TONBRIDGE R.C.** (a) (1) 6 houses at Crockhurst Street, Tudeley; (2) 8 flats at High Street, Hadlow; (3) 8 flats at Riding Park, Hildenborough; and (4) 6 flats at Henwood Close, Pembury. (b) Engineer and Surveyor, 48, Pembury Road. (e) Feb. 11.

**WEST RIDING C.C.** (a) Secondary schools at (1) Rotchwell, (2) Garforth, and primary schools at (3) Waterloo, Pudsey and (4) Purston, Featherstone. (b) County Architect, "Bishopsgarth," Westfield Road, Wakefield, after Feb. 11. (c) 2gns each contract. (e) March 3.

**WIDNES B.C.** (a) (Group No. 1) 32 houses and 4 bungalows and (Group No. 2) 14 houses and 4 bungalows, Crow Wood Estate (Section B). (b) Borough Architect, Brendan House, Widnes Road. (c) 5gns. (e) Feb. 11.

**WOKINGHAM B.C.** (a) 20 houses, Finchampstead Road Estate. (b) Eric G. V. Hives, 3, Cork Street, Reading. (c) 2gns. (e) Feb. 29.

## PLACED

Notes on contracts placed state locality and authority with bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. + denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

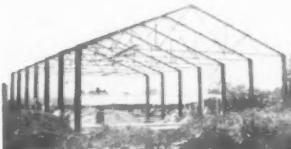
## BUILDING

**LIVERPOOL CORPORATION.** (1) 672 houses. (2) Kirkby. (3) Unit Construction Co., Ltd., Bentham Drive, Liverpool. (4) £1,004,000. Approved by Ministry.

**BIRMINGHAM E.C.** (1) Secondary school. (2) Woodbrook Road. (3) Percy W. Cox, Ltd., Grove Lane, Birmingham. (4) £114,532.

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**ASHTON-UNDER-LYNE B.C.** (1) 178 houses. (2) Crowhill site. (3) Bower Moffat and Co., Ltd., 17, Park Street, Manchester, 3.

**WORTHING B.C.** (1) 44 flats. (2) Maybridge. (3) Gorham (Contractors), Ltd., Goring-by-Sea. (4) £51,000. (1) 60 houses. (3) Perryman (Building Contractors), Ltd., 7, Castle Street, Tonbridge. (4) £84,969.

**PETERLEE DEVELOPMENT CORPORATION.** (1) 206 houses. (2) Eden Lane. (3) G. M. Pearson and Son, Ltd., 19, Front Street, Hetton, Co. Durham.

**ISLINGTON B.C.** (1) 38 flats and maisonettes. (2) Cornelia Street, etc. (3) Allen Fairhead and Sons, Ltd., Sydney Road, Enfield. (4) £78,803.

**ST. HELENS B.C.** (1) 50 houses. (2) East Lancashire Road Estate. (3) E. Henshaw, Broadway, St. Helens. (4) £71,643.

**DEVON C.C.** Primary school. (2) Tiverton. (3) Nicks Bros., Beacon Works, Bradninch, Devon. (4) £20,476.

**REIGATE T.C.** (1) Flats. (2) Woodhatch Estate. (3) Brazier Estates, Ltd., Haling Park Road, Croydon. (4) £19,692.

**SURBITON B.C.** (1) 32 flats. (2) Lovelace Estate. (3) W. J. Simms, Sons and Cooke, Ltd., 78, Mount Street, W.1. (4) £42,430.

**HACKNEY B.C.** (1) 20 flats. (2) Warwick Grove. (3) Mansfield and Neil, Ltd., 136, Minories, London, E.C.3. (4) £47,982.

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# OFFICIAL APPOINTMENTS

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## APPOINTMENTS

### DENBIGHSHIRE COUNTY COUNCIL.

#### COUNTY ARCHITECT'S DEPARTMENT

**T**HE above County Council invites applications for the under-mentioned appointments in the County Architect's Department, Wrexham, viz.:

1 SENIOR ASSISTANT ARCHITECT  
APT. T Division, Grade VII. Salary £685-£760 per annum.

Preference will be given to Associates of RIBA. Applicants must have had a thorough training in architectural design and some experience in the construction of Modern School Buildings and other works carried out by County Authorities.

2 SENIOR ASSISTANT ARCHITECT  
APT. T Division, Grade VI. Salary £645-£710 per annum.

Preference will be given to Associates of RIBA. Applicants must have had a thorough training in architectural design and some experience in the construction of Modern School Buildings and other works carried out by County Authorities.

1 SENIOR ARCHITECT APT. T Division Grade IV. Salary £530-£575 per annum.

Preference will be given to Associates of RIBA. Must have had good experience in architectural design and the preparation of working drawings and details.

1 JUNIOR ASSISTANT ARCHITECT  
APT. T Division, Grade II. Salary £470-£515 per annum.

Preference will be given to applicants who are nearing the completion of their studies for the Intermediate RIBA Examination. Applicants must be capable of preparing working drawings and details.

2 JUNIOR ASSISTANT ARCHITECTS  
Provisional Grade I (a) Salary £425-£470 per annum. One at Wrexham Office, and one at Abergele Area Office.

Preference will be given to applicants who are preparing for the Intermediate RIBA Examination. Applicants must be capable of the preparation of working drawings and details.

1 ASSISTANT QUANTITY SURVEYOR  
APT. Division, Grade V. Salary £570-£620 per annum.

Candidates must have passed the Intermediate Examination of the Royal Institution of Chartered Surveyors, Q.S., or the Surveyor's and have experience in taking off for all types of building works undertaken by a County Authority.

In addition, he should be familiar with, and will be required to undertake "working up" in all stages, measurement of works on site, interim certificates, and final accounts.

1 LANDS & BUILDINGS SURVEYOR  
APT. T Division, Grade V. Salary £570-£620 per annum.

Preference will be given to Members of the Royal Institution of Chartered Surveyors. Sub-Division of Building.

Applicants must be fully capable of producing accurate surveys of building sites, and sites in respect of water and sewage schemes; preparation of survey plans, site layouts and reports and estimating of site works; measuring up and surveying existing buildings, preparing site reports.

The appointments are subject to (a) the National Conditions of Service for Local Government Administrative, etc., Officers; (b) the Local Government Superannuation Act, 1937; (c) the passing of a medical examination; and (d) one calendar month's service on either side to expire at the end of a calendar month.

Applications, giving age, qualifications and particulars of present and previous appointments and accompanied by copies of three recent testimonials, to be sent to the undersigned, by not later than the 15th day of February, 1952.

W. E. BURTON,  
Clerk of the County Council  
County Offices,  
RUTHIN,  
January, 1952.

[6134]

### LANCASHIRE COUNTY COUNCIL PLANNING DEPARTMENTS

**SENIOR PLANNING ASSISTANTS (ARCHITECTURAL), A.P.T. VI (645-£710), required at PRESTON and BURY.** Candidates must be qualified architects. Duties include the design and preparation of detailed layouts for town planning schemes, village extensions and central area improvements. Applications, clearly stating appointment applied for and giving experience, present salary, and names, addresses and qualifications of two referees (preferably one should be present employee of the County Planning Office), to East Cliff County Offices, Preston, by 9th February, 1952.

[6125]

# ANNOUNCEMENTS

## • CONTRACTS • TENDERS

Close for press 1st post Monday for following Thursday Issue

## APPOINTMENTS—contd.

### STREET URBAN DISTRICT COUNCIL.

#### ENGINEER AND SURVEYOR'S DEPARTMENT

#### ARCHITECTURAL ASSISTANT

**A**PPICATIONS are invited for the appointment of ARCHITECTURAL ASSISTANT in the Office of the Engineer and Surveyor to the Council.

The salary for the appointment will be fixed by the Council according to the qualifications and experience of the applicant within the salary range A.P.T. Grade VI (£645-£710) or Grade VII (£685-£760).

Candidates should be Registered Architects and preference will be given to candidates who have had experience in the design, preparation of specifications and quantities, and complete supervision of the erection of Council Houses and execution of site works.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937, and will be subject to one month's notice in writing on either side.

The Council will consider the possibility of the provision of housing accommodation for the successful applicant, if married.

Applications, stating age, qualifications and full particulars of experience, together with copies of three recent testimonials, must reach the undersigned not later than the 15th February, 1952.

H. W. HENSON,  
Clerk of the Council.  
Council Office, Street  
22nd January, 1952.

## APPOINTMENTS—contd.

### LONDON COUNTY COUNCIL.

**A**PPICATIONS invited for position of Senior Structural Engineer in Architect's Dept. Salary £1,125-£1,250 per annum, plus London "weighting" or A.M.I. Struct E. essential. Further particulars and applications form (returnable by 29th February, 1952) from Architect, The County Hall, S.E.1, quoting AR EK SS/5 (67). [6123]

### URBAN DISTRICT OF FELTHAM

#### APPOINTMENT OF ARCHITECTURAL ASSISTANT

**A**PPICATIONS are invited for the appointment of ARCHITECTURAL ASSISTANT in the Engineer and Surveyor's Department at a salary according to the qualifications of the successful candidate. The salary scale is £570 per annum rising by two annual increments of £15 and one of £20 to £620 per annum plus London "weighting". Applicants must be Registered Architects.

The appointment will be subject to (i) the passing satisfactorily of a medical examination, (ii) the National Scheme of Conditions of Service, (iii) the provisions of the Local Government Superannuation Acts, and (iv) one month's notice in writing on either side.

Forms of application may be obtained from the undersigned to whom they should be returned, accompanied by copies of three recent testimonials, not later than 19th February, 1952. Candidates directly or indirectly will disqualify and applicants must disclose in writing whether, to their knowledge, they are related to any member of, or the holder of, any senior office under the Council.

M. W. COUPE,  
Clerk of the Council.  
Council Offices,  
Feltham, Middlesex.

[6128]

## LONDON ELECTRICITY BOARD.

#### ENGINEERING DRAUGHTSMAN DRAUGHTSMAN

**A**PPICATIONS are invited for the following positions in the North-Western Sub-Area at Atbryck St., W.1.

(1) ENGINEERING DRAUGHTSMAN Candidates should have had a good general and technical education, building experience, in architecture, and experience in the design of small buildings in brickwork and reinforced concrete would be an advantage.

The post is graded under Schedule "D" of the National Joint Board agreement, Grade 6 £438 to £570 per annum inclusive of London Allowance, and the commencing salary will be dependent upon qualifications and experience.

(2) DRAUGHTSMAN Candidates should be experienced in the following in relation to distribution systems up to 11 KV, (a) Plant and cable layout work, (b) Diagrams, (c) Cable surveys and wayleaves.

The post is graded under the National Joint Council agreement (General Clerical Grade), and the commencing salary will be determined according to age and qualifications up to a maximum of £560 per annum inclusive.

Applications on forms obtainable from Establishments Officer, 46, New Broad St., E.C.2, to be returned by 11th February, 1952, stating clearly the particular vacancy for which the application is made. Please enclose addressed four-leaf envelope and quote ref. 1382-316 AA on all correspondence.

[6133]

### BOROUGH OF WILLESDEN

#### BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT

#### APPOINTMENT OF ARCHITECTURAL STAFF

**A**PPICATIONS are invited for the following appointments on the Permanent Establishment of the Borough Engineer and Surveyor's Department:

1 ARCHITECTURAL ASSISTANT, Grade A.P.T. VII VIII (£715-£840).

2 ARCHITECTURAL ASSISTANT, Grade A.P.T. VII VIII (£630-£690).

The salary scales quoted are inclusive of London Weighting and the commencing salary will be in accordance with the successful candidates' qualifications and experience.

Candidates for these appointments must be Associates of the Royal Institute of British Architects or hold an equivalent qualification.

Preference will be given to those having a general knowledge and experience of architectural work in the service of a local authority.

The following appointments will be terminable by one month's notice on either side, are subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidates will be required to pass a medical examination.

It will be necessary for the successful candidate to provide his own housing accommodation as the Council is not in a position to assist.

Applications stating age, qualifications, experience, etc., accompanied by copies of not more than three testimonials should be addressed to the undersigned, or to the Architectural Appointment, not later than 10 a.m. on Monday, 18th February, 1952.

Cannassing either directly or indirectly, will be deemed a disqualification.

(Signed) R.S. FORSTER,  
Town Clerk

Town Hall,  
Eyne Road,  
Kilburn, N.W.6.  
23rd January, 1952.

[6137]

## LONDON COUNTY COUNCIL

**HAMMERSMITH** School of Building and Arts and Crafts Required.

LECTURER IN ARCHITECTURE A.R.I.B.A. or F.R.I.B.A. as Study Instructor in design, construction and survey subjects.

2. LECTURER in building construction, building quantities and allied subjects to Ord. and Higher Nat. Diploma standards, preferably also able to teach Land Surveying.

3. GRADE A ASSISTANT in building construction, geometry, building quantities, etc., in Nat. Diploma and City and Guilds crafts courses.

Salaries (1) and (2) £900-£125-£1,000 plus £100 per annum (£1,100-£1,400) and (3) commencing salary varies between £411 and £511, depending on age (67-69) and £792 according to qualifications and experience. Application forms from the school, Lime Grove, W.12, to be returned within 14 days. (88)

[6144]

## CONTRACTS

DROYLSDEN URBAN DISTRICT COUNCIL.

## PUBLIC CONVENIENCES.

TENDERS are invited for the CONSTRUCTION OF PUBLIC CONVENIENCES and incidental works at "Fiveways," Droylsden.

Copies of the Plan, Specification, Bill of Quantities and Form of Tender may be obtained from, and the General Conditions of Contract may be inspected at, the office of the Engineer and Surveyor.

Tenders, in plain, sealed envelopes, endorsed "Public Conveniences," must be delivered to me not later than 10 a.m. on Friday, February 1952.

The Council does not bind itself to accept the lowest or any tender.

G. S. HEPTON,

Clerk of the Council

[6130]

## BOROUGH OF MACCLESFIELD

SCHEME 1.B—ERECTION OF FIVE BUNGALOWS (TYPE 2.C.S.1). MOSS LANE ESTATE, MACCLESFIELD

TENDERS are invited for the ERECTION of the above BUNGALOWS in accordance with drawings and Bills of Quantities prepared by the Borough Architect.

Bills of Quantities and Form of Tender may be obtained from the Borough Architect, 3, Jordangate, Macclesfield, on payment of a deposit of £2 2s. which will be refunded on receipt of a bona fide tender, or on the date of the opening of tenders, within seven days of their receipt by the depositary.

Tenders in plain sealed envelopes which will be provided are to be delivered to the office of the undersigned not later than 10 a.m. on Monday, 18th February, 1952. The Corporation does not undertake to accept the lowest or any tender.

WALTER ISAAC.

Town Clerk.

[6136]

## MISCELLANEOUS SECTION

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## ARCHITECTURAL APPOINTMENTS VACANT

ARCHITECTURAL Assistant. Senior position required immediately. Please write, stating details of experience and qualifications. Martin & W. H. Ward, 106, Colmore Row, Birmingham, 3. [6118]

ARCHITECTURAL Assistant required in West End Architects' Office, up to R.I.B.A. Intermediate Standard. Must have completed his Military Service. Apply in writing, stating age, experience and salary required, to Box 6225. [6095]

SENIOR assistant required for appointment with Cobb and Powell, F.A., R.I.B.A., in Kampala, Uganda; applicants should have ability and an appreciation of traditional design for public buildings and houses and should state the salary that they require. Reply: R. S. Cobb, F.R.I.B.A., Spelsbury, nr Chalford, Oxfordshire. [6132]

ARCHITECTURAL ASSISTANTS required with at least three or four years' office experience; minimum standard R.I.B.A. Intermediate. Five days working week with pension scheme and staff canteen in operation. Applications in writing giving age, training and experience to: Chief Staff Architect, Ilford Limited, Romford, Essex. [6114]

## ARCHITECTURAL APPOINTMENTS VACANT—contd.

**MIDLAND** Architect medium-sized office requiring Senior and Intermediate Standard Assistant Architects, with imaginative, contemporary outlook, good draughtsmen, willing to take responsibility, bonus scheme in operation. Salary in accordance with experience and ability. Housing, School, Industrial work in progress.—Full details, Box 6219. [6090]

**A**N industrial architect is required by a large manufacturing company in the Midlands to take responsibility for the development and supervision of building work. Applicants, who should be registered architects by examination, must have had experience in modern heavy industrial building design. Applications, stating age, experience, qualifications and salary required, to Box 6220. [6115]

**IMPERIAL CHEMICAL INDUSTRIES**, Ltd., General Chemicals Division, require one or two Assistant Architects in the Architectural Section of their Chief Engineer's Department, Runcorn. Applicants should have had good experience in design and supervision of works in the chemical industry. Other factors being equal, preference will be given to those who have passed the final examination of the R.I.B.A. Salary dependent on age and experience. Membership of Pension Fund Apply in writing, quoting R.I.B.A. to Manager, Imperial Chemical Industries, Ltd., General Chemicals Division, Cunard Building, Liverpool, 1. [6037]

**SENIOR ARCHITECTURAL ASSISTANT** required in Northern Rhodesia, preference given to Member R.I.B.A. and T.P.L with specialist knowledge of domestic Architecture, particularly relating to small dwellings. The successful applicant will be required to design and supervise buildings, details. Specifications and Contract documents in Lusaka for a number of small housing Contracts over the Territory, and to take the lead in supervising the Contract work, on behalf of a newly formed Housing Authority. Contract salary £1,500 p.a. plus travelling expenses and assistance with housing. Reply with full details, to The Manager, P.O. Box 420, Lusaka, Northern Rhodesia. [6109]

## SITUATIONS VACANT

**KUWAIT OIL CO., LTD.** requires a technical instructor in carpentry and joinery for service in Kuwait, must have recognized C & J apprenticeship, be a carpenter and joiner, be a master carpenter and possess City and Guilds Teaching Certificate; preference given to candidates with previous experience as apprentices, age 32-40, salary starting £710 p.a. clear, plus generous allowances, pension scheme and kit allowance. Give full personal details and quoting R. 1428 to Box G 14, at 191, Gresham House, E.C.2. [6135]

## SITUATIONS WANTED

**A**RIBA, aged 36, requires post as Senior Assistant, London or Provinces. Box 6613. [6140]

## SERVICES OFFERED

**A**RIBA offers part-time assistance to other architects (London area). Box 6635. [6142] **THATCHING** and re-leading contracts undertaken by experts. J. G. Cowell, Soham, Fins Cambs. [6112]

**ARCHITECT** and Surveyor available for part-time practice (South Lancashire re-located). Box 6614. [6141]

**ARCHITECTURAL** Ass't required part-time evening work at home. Tracings details, properties. Week-ends free for surveys. Fees by arrangement. Box 6593. [6138]

**FOR** every design problem, structural, mechanical or electrical, and all aspects of drawing office technique from direct tracing to detailed planning and draughtsmanship, consult the drawing office specialists—Mechanical Design, Ltd. 10, Grove Park Rd., Nottingham, S.E.9. Tel. Eltham 4513. [6036]

## CONTRACTS WANTED

**BUILDERS** and Contractors would like inquiries for general maintenance and decorations to blocks of flats, factories, shops and houses. Also war damage rebuilds. Staff of experienced workmen available. West and North-West London areas preferred. References supplied if necessary. Clifford Sabey (Contractors), Ltd., 131, Carlton Ave, East, Wembley. Arnold 3836-9. [6092]

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**WANTED**, Springfield Buffalo 6.8-ton tandem rollers. Full details to Charles A. Preese, Ltd., 189, Bowes Rd., London, N.11. Tel. Enterprise 6104.

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# DOMESTIC WATER HEATING

Basic Engineering Principles of Electric and Solid-fuel Installations

This book by RONALD GRIERSON, M.I.E.E., M.I.MECH.E., provides a critical analysis of current practice in the supply of hot water for domestic purposes. The increasing cost of and enormous demand for new housing have made the time opportune for such an investigation, for it is generally conceded that the standard of efficiency and running costs of many present-day household installations leave much to be desired.

The only remedy for their deficiencies lies in the application of sound engineering principles, and these the author has applied to the design of water-heating plant of the solid fuel electric type.

The book deals mainly with the combination of an electric immersion heater and thermostat with

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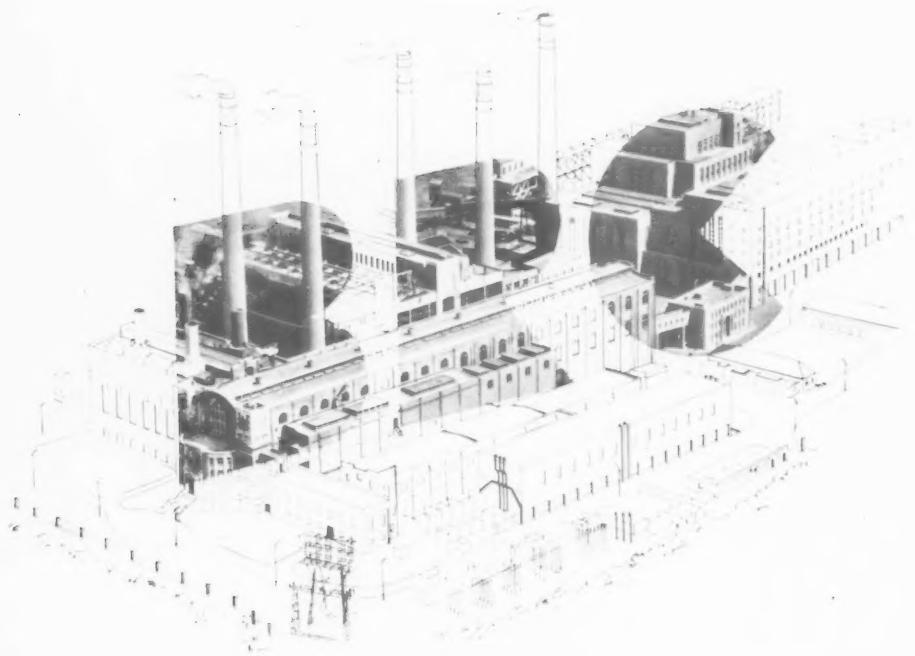
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